***BY ORDER OF THE SECRETARY OF THE AIR FORCE***

***AIR FORCE INSTRUCTION 11-2MC-12W, VOLUME 3***

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***Flying Operations***

***MC-12W OPERATIONS PROCEDURES***

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This instruction implements Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure* and references AFI 11-202, Volume (vol) 3, *General Flight Rules.* It establishes the minimum Air Force (AF) standards while performing duties for the operation of the MC-12W. It applies to Air National Guard (ANG) and Air Force Reserve Command (AFRC) units. Major Commands (MAJCOMs)/Direct Reporting Units (DRUs)/Field Operating Agency (FOAs) are to forward proposed MAJCOM/FOA/DRU-level supplements to this volume to AF/A3O-AI, through ACC/A3CR, for approval prior to publication in accordance with (IAW) AFPD 11-2, paragraph 4.2. Copies of MAJCOM/DRU/FOA-level supplements, after approved and published, will be provided by the issuing MAJCOM/DRU/FOA to AF/A3O-AI, ACC/A3CR, and the user MAJCOM/ DRU/ FOA and National Guard Bureau (NGB) offices of primary responsibility. Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA Office of Primary Responsibility (OPR) for post publication review. Note: The terms DRU and FOA as used in this paragraph refer only to those DRUs/FOAs that report directly to HQ USAF. The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the AF. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with AFMAN 33-363, *Management of Records*, and disposed of in accordance with Air Force Records Disposition Schedule (RDS) located at **https://www.my.af.mil/afrims/afrims/afrims/rims.cfm** . The Privacy Act of 1974 applies to certain information gathered pursuant to this instruction. The Privacy Act System Number F011 AF XO A, Aviation Resource Management System (ARMS), covers required information. The authority for maintenance of the system is 37 U.S.C. 301a, *Incentive Pay;* Public Law 92-204,

Section 715, *DoD Appropriations Act for 1972*, December 18, 1971; Public Law 93-294, *Aviation Career Incentives Act of 1974*, May 31, 1974; Public Law 93-570, *Continuing Appropriations, 1975*, February 25, 1975; Department of Defense (DoD) Directive 7730.57, *Aviation Career Incentive Act and Required Annual Report*, February 5, 1976; and Executive Order 9397, *Numbering System for Federal Accounts Relating to Individual Persons*, November 22, 1943, as amended by Executive Order 13478. The Paperwork Reduction Act of 1995 affects this instruction. Recommendations for improvements to this volume will be submitted on AF Form 847, *Recommendation for Change of Publication*, through channels, to the parent MAJCOM OPR. The parent MAJCOM OPR will forward approved recommendations to lead command OPR (ACC/A3C, **acca3c.c2isrops@langley.af.mil**). AF/A3/5 is the approval authority for changes to this instruction.

***SUMMARY OF CHANGES***

This interim change adds the Critical Action Procedures (CAPs) to AFI11-2MC-12WV3. Add the following as **Attachment 5**. A margin bar indicates newly revised material.

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## Chapter 1

## GENERAL INFORMATION

**1.1. General.** This instruction provides policy for operating the MC-12W aircraft. When guidance in this AFI conflicts with another basic/source document, that document takes precedence. For matters where this AFI is the source document, waiver authority is IAW **paragraph 1.4** For matters where this AFI repeats information in another document, follow waiver authority outlined in the basic/source document.

1.1.1. Unit commanders and agency directors involved with or supporting MC-12W operations shall make current copies of this AFI available to appropriate personnel. Transportation and Base Operations passenger manifesting agencies will maintain a current copy of this AFI.

**1.2. Applicability.** This AFI applies to aircrew members, systems operators, support personnel, contractors, and managers involved with employing MC-12W aircraft.

**1.3. Aircrew Responsibility.** This volume, in conjunction with other governing directives, prescribes operating procedures for the MC-12W under most circumstances. It is not to be used as a substitute for sound judgment or common sense. Operations or procedures not specifically addressed may be accomplished if they safely enhance mission accomplishment.

1.3.1. Key Words Explained.

1.3.1.1. “Will" and "shall" indicate a mandatory requirement.

1.3.1.2. “Should" indicates a preferred, but not mandatory, method of accomplishment.

1.3.1.3. “May" indicates an acceptable or suggested means of accomplishment.

1.3.1.4. "**NOTE**" indicates operating procedures, techniques, etc., considered essential to emphasize.

1.3.1.5. **“CAUTION”** indicates operating procedures, techniques, etc., which could result in damage to equipment if not carefully followed.

1.3.1.6. **“WARNING”** indicates operating procedures, techniques, etc., which could result in personal injury or loss of life if not carefully followed.

**1.4. Deviations and Waivers.** The Aircraft Commander (AC) is vested with ultimate mission authority and responsible for each course-of-action taken. The Cryptologic Operator (CO) is the cryptologic authority on board the aircraft.

1.4.1. Deviations. Deviations from policies in this AFI are not permitted except when the situation demands immediate action to ensure safety. The AC shall report deviations or exceptions taken without waiver through command channels to the appropriate waiver authority within 24 hours and to Chief, MAJCOM Standardization and Evaluations (Stan/Eval) within 48-hours. Chief, MAJCOM Stan/Eval shall in turn notify Chief, ACC Stan/Eval (lead command) as appropriate for follow-on action. The AC shall collect background information and upon request submit a follow-up written report.

1.4.2. Waiver authority for this publication is the MAJCOM/A3 unless noted otherwise. For contingency operations, the Commander of Air Force Forces (COMAFFOR) is the waiver authority for this publication. Units requesting waiver will submit detailed staff package including justification and impact to operations if waiver is not granted. This AFI is a basic directive. Each user MAJCOM may supplement this AFI according to AFPD 11-2, *Aircraft Rules and Procedures*, and AFI 33-360, *Publications and Forms Management*. Unique MAJCOM procedures (shall not be less restrictive than this basic document) will be stipulated and ACC/A3-approved permanent waivers will be published in the MAJCOM supplement.

**1.5. Local Supplement Coordination Process.** Operations Group commanders (OG/CCs) may define local supplements to this instruction. OG/CCs shall obtain approval from Numbered Air Force (NAF) if applicable, and/or from the MAJCOM prior to releasing their supplement. Send an electronic copy of the approved version to HQ ACC/A3C.

1.5.1. Coordination Process. MAJCOM-approved supplements (attach AF Form 673, *Request to Issue Publication*) will be forwarded to HQ ACC/A3CR for coordination.

**1.6. Requisition and Distribution Procedures.** Unit commanders shall use AFI 33-360 procedures to provide aircrew members and associated support personnel current copies and changes of this AFI.

**1.7. Definitions.** Find explanations or definitions of terms and abbreviations commonly used in the aviation community in Code of Federal Regulations (CFR) Title 14, Part 1; *DoD Flight Information Planning (FLIP) General Planning*, Chapter 2; and Joint Pub 1-02, *The Department of Defense (DoD) Dictionary of Military and Associated Terms*. See **Attachment 1** for common terms used herein.

**1.8. Aircrew Operational Reports.** The reporting requirements in this instruction are exempt from licensing IAW paragraph 2.11.10 of AFI 33-324, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Interagency Air Force Information.*

## Chapter 2

## COMMAND AND CONTROL

**2.1. General.** Command and Control (C2) of AF MC-12W aircraft will be established by ACC.

**2.2. Execution Authority.** Execution authority for missions will be received through the local command element. Commanders with execution authority formulate plans, allocate assets, and approve ACs to carry out directed or training missions through a local command post or C2 element. OG/CCs serve as execution authority for missions. Squadron Commanders (SQ/CCs) or their designated representatives assign missions to ACs. ACs hold execution authority for missions operating outside normal communication channels (use last known mission orders or best course of action).

2.2.1. Off-Station Trainers (OST). Approval authority is the Wing Commander (WG/CC) but may be delegated to the OG/CC.

**2.3. AC Responsibility and Authority.** Unit commanders shall designate a pilot, Instructor Pilot (IP), or Evaluator Pilot (EP) as the AC for all flights on a flight authorization from IAW AFI 11-401, *Aviation Management*. An unqualified or non-mission ready (NMR) pilot may not be designated as AC. ACs are:

2.3.1. In command of all persons aboard the aircraft.

2.3.2. Vested with authority to accomplish the assigned mission. The AC shall only fly events authorized in the mission tasking unless in the AC's judgment an emergency condition demands otherwise.

2.3.3. The final mission authority and will make decisions not assigned to higher authority.

2.3.4. The final authority for requesting or accepting aircrew or mission waivers.

2.3.5. Responsible for passing mission progress reports to C2 agents.

2.3.6. Responsible for interaction between aircrew members and mission support personnel and will establish a point-of-contact (POC) with the appropriate C2 agent prior to entering crew rest.

2.3.7. Responsible for the welfare of aircrew members, Mission Essential Personnel (MEP), and the safe accomplishment of the mission.

**2.4. Mission Clearance Decision.** When conditions do not warrant starting or continuing a mission, the executing agency or the AC may decide to delay a mission. If the AC refuses a mission, the mission will not depart until the conditions have been corrected or improved so that the mission can operate safely. Another AC will not be tasked to take the same mission under the same conditions.

**2.5. Aircrew Responsibilities.** The local C2 agency is the focal point for all mission support activities. The AC must inform C2 of any factor that may affect mission accomplishment. When transiting a stop without a C2 agency, the AC is responsible for ensuring necessary mission information is placed into the C2 system by the most expeditious means available.

**2.6. Operational C2 Reporting.** All units will establish C2 reporting procedures and requirements. Aircrews on operational missions will transmit an arrival advisory to the destination C2 when applicable.

**2.7. Mission Commander (MC).** The mission commander shall be designated when the MC-12W is executing an Intelligence, Surveillance, and Reconnaissance (ISR) mission. The mission commander is accountable for mission execution and will ensure all pre/post mission coordination is accomplished. The mission commander shall also be the designated AC.

## Chapter 3

## AIRCREW MANAGEMENT

**3.1. Aircrew Qualification.** Primary crewmembers or those occupying a primary position during flight must be qualified or in training for qualification. If noncurrent, or in training for a particular event, the crewmember must be under the supervision of an instructor, or qualified squadron supervisor as permitted IAW AFI 11-2MC-12W vol 1, *MC-12W Aircrew Training*, of like specialty while accomplishing that event (direct supervision for critical phases of flight).

**3.2. Mission Crew Composition.** The minimum crew required to fly the MC-12W is one AC and one copilot (CP).

3.2.1. For non-tactical/basic operational sorties, OG/CC may approve single-pilot operations with a single-pilot qualified AC.

3.2.2. Normal mission crew composition is one MC, one copilot, one Sensor Operator (SO), and one CO, IAW AFI 65-503, US Air Force Cost and Planning Factors; table A 36-1 & A37-1 Authorized Crew Composition.

3.2.2.1. The crew will ensure the mission systems are operated and employed in compliance with applicable United States Signal Intelligence Directives (USSIDs) and classified guidance.

**3.3. Mission Essential Personnel (MEP).** MEP status is granted to certain individuals performing unique support duties directly associated with and essential to a particular aircraft, aircrew, or mission. MEP authority must be on the individual's orders or other written authorization.

**3.4. Distinguished Visitor (DV) Operating Procedures.** Not all DVs will have appropriate read-ins and clearances for all aspects of MC-12W operations.

3.4.1. Pilot-rated senior staff members (DV7 or above) who have completed a familiarization course may occupy either pilot seat under direct IP supervision, provided they have a current instrument refresher course (IRC) and instrument evaluation. Senior officers will be included on the flight authorization log and as "OP" for flight authorization duty code on the AF Technical Order (AFTO) Form 781, *AFORMS Aircrew/Mission Flight Data Document*.

3.4.2. Non-rated senior officers who desire to fly may occupy a pilot seat during non-critical phases of flight when under the direct supervision of an instructor pilot and no passengers onboard.

**3.5. Alert Procedures.** Aircrews shall not remain on alert for more than 72 consecutive hours. If alerted, standard flight duty periods and post-mission crew rest limitations apply. Crewmembers shall be released from alert for a minimum of 24 hours before resuming alert status. Units shall publish local alerting procedures in Chapter 10. While on alert status, a daily update briefing may be accomplished without interrupting crew rest. This brief can include weather, intelligence, local Notices to Airman (NOTAMS), the latest Flight Crew Information File (FCIF) information, special instructions, and any other appropriate items. The AC determines which crewmembers attend the brief.

**3.6. Flight Duty Period (FDP).** FDP is the time period between mission reporting and final aircraft engine shutdown. Maximum FDP for MC-12W crewmembers is 16 hours, except as limited below.

3.6.1. Maximum FDP is 12 hours for operational reconnaissance missions and pilot proficiency sorties. On operational missions, aircrews may recover to basing locations with a tactical arrival/recovery to include the use of Night Vision Goggles (NVGs) after 12 hours with the approval of the OG/CC.

3.6.2. Maximum FDP for training missions (not including pilot proficiency sorties) is 14 hours. Practice instrument approaches, touch and go landings, tactical arrivals, NVG landings or conduct simulated emergency procedures will not be conducted after 12 hours of FDP.

3.6.3. Maximum FDP for flight without a fully functional autopilot is 12 hours.

3.6.4. Basic aircrew maximum FDPs may be extended up to 4 hours by WG/CCs/OG/CCs. For extensions greater than 4 hours, the waiver authority is ACC/A3. ACC/A3 is the approval authority for any extension to the augmented aircrew maximum flight duty period.

**3.7. Crew Rest.**

3.7.1. Crew rest is compulsory for any aircrew member prior to performing any of the following flight-related duties: preflight, load/unload, start, and taxi aircraft. The crew rest period is normally a minimum 12-hour non-duty period before the FDP begins. It will consist of 10 hours of continuous restful activities including an opportunity for at least 8 hours of uninterrupted sleep during the 12 hours immediately prior to the FDP. Crew rest interruptions must be made only under the most exceptional of circumstances.

3.7.2. Reentering Crew Rest. ACs are granted the authority to reenter crew rest if their aircraft or mission (training or operational) is not capable of departure within 4 hours from scheduled takeoff time. The AC shall evaluate delay circumstances (maintenance Expected Time of Completion (ETIC), weather (WX) forecasts, crew Operational Risk Management (ORM), mission priority, expected duty day, etc.) and inform execution authority of intent to reenter crew rest.

3.7.3. Temporary Duty (TDY) Crew Rest/Post Deployment Stand Down.

3.7.3.1. The OG/CC or acting representative is designated Post-Mission Crew Rest (PMCR) waiver authority and will not delegate this authority. PMCR waivers will be limited to extraordinary circumstances only and must not be used for day-to-day operations.

3.7.3.2. Post Deployment Stand Down. Except in extraordinary circumstances, active duty personnel will be given 7 days off for deployments of 6 consecutive weeks or more. Personnel must take leave if they travel outside the local area; may be issued a pass IAW DoD Directive 1327.5, *Leave and Liberty* and AFI 36-3003, *Military Leave Program*, Section E; or remain "present for duty" at home within the local area taking care of quality of life issues requiring attention due to lengthy deployments. The unit commander will define the local area and the policy for "present for duty." Waiver authority is WG/CC or OG/CC.

**3.8. Fatigue Management.**

3.8.1. The maximum FDP listed above sets broad guidelines and is meant to give commanders and aircrew maximum flexibility for mission accomplishment. It does not mandate mission durations, nor does it infer recommended scheduling procedures. When scheduling mission durations, an ORM assessment shall be conducted in accordance with AFI 90-901, *Operational Risk Management*. Several factors should be considered. These include, but are not limited to: mission requirements, mission priority, aircrew experience level, aircrew proficiency, fatigue, long-term aircrew welfare, aircraft maintenance status, weather, threats, time of day, and moon illumination.

3.8.2. It is the AC's responsibility to terminate a mission if safety may be compromised by fatigue factors, regardless of authorized FDP.

3.8.3. Aircrews should receive additional crew rest for deployments spanning several time zones (e.g., Outside of the Continental United States (OCONUS) deployments). Aircrews crossing four or more time zones within a 24-hour period, e.g., returning from the Continental United States (CONUS) leave or completing deployment to or from CONUS) will not fly a local training sortie for 48 hours (waiver authority is the OG/CC).

**3.9. Interfly.** Interfly is the exchange of aircrew members between units. The OG/CC, or his/her designated representative, is the approval authority. The OG/CC is responsible for ensuring all persons are current and qualified for the type of mission being flown.

## Chapter 4

## AIRCRAFT OPERATING RESTRICTIONS

**4.1. Objective.** Redundant systems may allow crews to safely perform some missions when a component/system is degraded. The AC is the final authority in determining the overall suitability of an aircraft for the mission. The AC will ensure a detailed explanation of the discrepancy is entered in the 350ISR-F-002, *Discrepancy and Maintenance Work Sheet*; include the following maintenance identifiers to effectively communicate aircraft status.

4.1.1. Mission Essential (ME). The AC will designate an item, system, or subsystem component essential for safe and effective aircraft operation as ME.

4.1.2. Mission Contributing (MC). The AC will designate an item, system, or subsystem component, which is not currently essential for safe and effective aircraft operation as MC. These discrepancies should be cleared at the earliest opportunity. If circumstances change or mission safety would be compromised, the MC status will be re-designated as ME. Missions will not be delayed to clear a MC discrepancy.

4.1.3. Open Item (OI). The AC will designate discrepancies not expected to adversely impact the current mission as an OI.

**4.2. Minimum Equipment List (MEL) Policy.** The MEL catalogues the minimum equipment/systems required to operate the aircraft. It is impractical to prepare a list that would anticipate all possible combinations of equipment malfunctions and contingent circumstances. Consider equipment/systems with no listed exceptions as grounding items. An AC who accepted an aircraft with degraded equipment/systems is not committed to subsequent operations with the same degraded equipment. ACs are not committed to operations with degraded equipment accepted by another AC.

4.2.1. Aircrews will use Pilot Operating Handbook (POH) Kinds of Operational Equipment List and the Federal Aviation Administration (FAA) Master Minimum Equipment List (MMEL), which may be tailored by the OG/CC for all local MELs.

4.2.2. The AC shall account for the possibility of additional failures during continued operation with inoperative systems or components. The MEL is not intended for continued operation over an indefinite period with systems/subsystems inoperative.

4.2.3. All emergency equipment will be installed unless specifically exempted by mission requirements/directives.

4.2.4. Waiver Policy. An AC desiring to operate with a degraded item required to be functional by the MEL shall request a waiver. The AC shall provide:

4.2.4.1. The nature of the request.

4.2.4.2. The individual crew member qualification.

4.2.4.3. The mission requiring the waiver.

4.2.4.4. The governing directive of waiver request to include volume, chapter, or paragraph.

**4.3. Waiver Protocol.** MEL waiver authority is as follows.

4.3.1. Training Missions. The OG/CC or equivalent with mission execution authority.

4.3.2. Operational Missions. The MAJCOM/A3 delegated to the appropriate operational mission commander in theater having Operational Control (OPCON) with mission execution authority.

4.3.3. If beyond C2 communication capability, and when faced with exigent circumstances, the AC may deviate from the MEL and this chapter. Report deviations (without waiver) IAW this AFI **paragraph 1.4**

4.3.4. One-time Flight Clarification. Occasionally a Code 3 discrepancy is downgraded for a one-time flight. The priority is to move the airplane to a repair capable facility. ACs must coordinate with appropriate agencies to ensure repair capability exists at the destination. One-time flights may include en route technical stops only when necessary to recover the airplane.

**4.4. Gear Down Flight Operations.** Gear down flight operations will be limited to sorties required to move the aircraft to a suitable repair facility. Gear down flight will be considered only after the AC exhausts all avenues to repair the aircraft in place.

## Chapter 5

## OPERATIONAL PROCEDURES

**5.1. Checklists.** A checklist is not complete until all items have been accomplished. Momentary hesitations for coordination items, air traffic control (ATC) interruptions and deviations specified in the flight manual, etc., are authorized. Notes amplifying checklist procedures or limitations may be added to the checklists (in pencil only). Currency of notes is a crewmember's responsibility.

5.1.1. Checklist Inserts. MAJCOM Stan/Eval will approve the use of checklist inserts IAW AFI 11-215, *USAF Flight Manuals Program (FMP).* The inserts should be placed at the end of the appropriate checklist or in an in-flight guide. All checklist inserts must have a POC. Operations Group Stan/Eval (OGV) shall approve local in-flight guides and inserts not affecting POH guidance and procedures.

**5.2. Duty Station.** Both pilots shall be in their seats during flight. One of the pilots may be out of their seat for brief periods to meet physiological needs and crew duties. With both pilots in their seats, ACs may authorize rest periods for one pilot occupying a primary duty station during non-critical phases of flight (the other pilot will be awake and alert). AFI 11-202V3 requirements will be complied with when one pilot is out of the seat.

5.2.1. During training missions, pilot in-flight seat swaps may be accomplished only with a qualified pilot at the flight controls and above 1,000 feet Above Ground Level (AGL).

**5.3. Landings With An Emergency.** A qualified AC will accomplish the landing during actual emergency conditions unless specific conditions dictate otherwise.

**5.4. DV-2 Missions.** DV-2 or higher missions require an experienced aircraft commander (EAC) certified by the unit commander as highly experienced or certified as an instructor to be the AC. EACs must have 200 hours primary assigned aircraft ("other" time excluded) after certification as an AC. A qualified EAC or higher will make all takeoffs and landings on these missions. **Exception:** 200 hr limit may be waived with initial cadre instructors.

**5.5. Seatbelts.** All occupants must have an assigned seat with a seatbelt. Use of seatbelts will be as directed by the AC and the flight manual.

5.5.1. Both pilots will have the lap belt fastened at all times in flight and while taxiing the aircraft, unless crew duties dictate otherwise.

5.5.2. All crewmembers will have seatbelts and shoulder harnesses fastened during takeoff and landing unless crew duties dictate otherwise.

5.5.3. For tactical operations, all crewmembers will have seatbelts fastened unless authorized by the AC or crew duties dictate otherwise.

5.5.4. Crewmembers performing instructor or flight examiner duties are exempt from seatbelt requirements during non-critical phases of flight if not occupying a primary crew position; however, they will have a seat available with an operable seatbelt.

**5.6. Portable Electronic Devices. WARNING:** Mission equipment such as laptop computers, portable Global Positioning System (GPS) units, and associated components (battery cords,

safety cords, and other hardware) can become entangled with emergency equipment, engine controls, or other switches. Any interference can cause inadvertent engine shutdown, or repositioning of other critical switches or controls. Extreme caution must be exercised when operating portable electronic devices in the cockpit.

**5.7. Advisory Callouts.** The pilot flying (PF) will periodically announce intentions during departures, arrivals, approaches, and when circumstances require deviating from normal procedures. The pilot not flying (PNF) will monitor PF actions and maintain situational awareness at all times (see note 3). **Table 5.1** through **Table 5.5** depict mandatory advisory callouts for en route climb/descent, non-precision approaches, precision approaches, missed approach and significant deviations respectively. Advisory callouts may be omitted if aircraft avionics provide audible advisories. PF must confirm avionics advisories, and PNF will confirm automated systems are set IAW ATC clearance or desired flight profile.

5.7.1. Anytime an altitude or altimeter setting is changed when operating in a non-standard configuration, both pilots will verify the units of measure. A standard configuration is defined as the units of measure with which the pilots are accustomed to operating.

5.7.2. Any crewmember observing an altitude deviation of more than 200 feet from assigned or a decrease of 10 knots airspeed from desired or a potential terrain/obstruction conflict will immediately notify the PF. PF will acknowledge the warning and take appropriate action to correct the deviation.

**Table 5.1. En route Climb/Decent**

| PHASE OF FLIGHT | PNF CALL | PF RESPONSE |
|---|---|---|
| At 1,000 Feet Prior To Level-Off | 1,000 to go | "Leaving (current altitude) for (desired altitude)" |

**Table 5.2. Non-precision Approaches.**

| PHASE OF FLIGHT | PNF CALL | PF RESPONSE |
|---|---|---|
| 1,000 feet above Minimum Decision Altitude (MDA) | "1,000 above" | "MDA____" |
| 100 feet above MDA | "100 feet above" | "100 feet above" |
| At MDA | "MDA" | "Maintaining MDA" |
| Runway environment in sight, prior to or at Missed Approach Point (MAP) | "Approach lights at (clock position)" | "Continuing or Landing"<br><br>See notes (1-3) |
| | "Runway in sight" | "Runway in sight (clock position); Continuing or Landing"<br><br>See notes (1-3) |

| | | |
|---|---|---|
| At MAP, runway not in sight | "Runway not in sight" | "Missed Approach"<br><br>See note 1 |

**Table 5.3. Precision Approaches.**

| PHASE OF FLIGHT | PNF CALL | PF RESPONSE |
|---|---|---|
| At 1,000 feet above Decision Altitude (DA)/Decision Height (DH) | "1,000 feet above" | "DH_____" |
| At 100 Feet above DA/DH | "100 feet above" | "100 feet above" |
| When runway environment is in sight | "Runway environment in sight" | "Runway environment in sight (clock position); Continuing or Landing"<br><br>See notes (1-3) |
| At DH | "Decision Height " | "Continuing for (type of landing)" or "Missed Approach"<br><br>See notes (1-3) |

Table 5.2 – 5.3 Notes.

1. The PF will announce his/her intentions to either land or go-around. If the runway environment is not in sight and/or the aircraft is not in position for a normal landing, a go-around will be made.
2. The pilot may continue to 100 feet height above touchdown (HAT) with reference to the approach lights. The pilot may not descend below 100 feet above touchdown zone elevation (TDZE) referencing only the approach lights unless the red terminating bar or the red side row bars are distinctly visible and identifiable.
3. The PNF shall announce "50" and "25" at 50 feet and 25 feet HAT as provided by the radar altimeter. HAT calls may be omitted if aircraft avionics provide indications based on radar altimeter. The PNF shall assess aircraft sink rate and expected point of touchdown and call "go-around" if the aircraft sink rate is excessive or the expected point of touchdown is short of the threshold.

**Table 5.4. Significant Deviations Callouts.**

| DEVIATION | PNF CALL | PF RESPONSE |
|---|---|---|
| Knots Indicated Airspeed (KIAS) IAW AFI 11-2MC-12WV2, *MC-12W Aircrew Evaluation Criteria* 'Q' parameters for maneuver or phase of flight | "XX fast/XX slow" | "Correcting to_____" |
| Heading IAW AFI 11-2MC-12WV2 'Q' parameters for | "Heading_____ degrees left/right"" | "Correcting to _____" |

| | | |
|---|---|---|
| maneuver or phase of flight | | |
| Altitude IAW AFI 11-2MC-12WV2 'Q' parameters for maneuver or phase of flight | Altitude_____high/lo" | Correcting to _____" |
| Course Deviation Indicator (CDI) Left or Right One Dot | "Left/Right of course____dot" | "Correcting" |
| Radio Magnetic Indicator (RMI) Course Left or Right ±5º | "Left/right of Course___degrees" | "Correcting" |
| Final approach Vertical Decent Speed Greater Than 1,000 fpm, or pre-briefed decent rate | "Sink rate_____" | "Correcting" or "Intentional" |
| Bank in Excess of 30º, unless previously briefed. | "Bank _____degrees" | "Correcting" or "Intentional" |

**5.8. Communications Policy.** The Air Force does not give a promise of confidentiality to aircrews regarding their recorded aircraft crew communications. Crewmembers are expected to maintain a high degree of cockpit professionalism and crew coordination at all times.

5.8.1. Sterile Cockpit. Conversation will be limited to that essential for crew coordination and mission accomplishment during critical phases of flight and as deemed appropriate by the AC.

5.8.2. Radio setup. The Pilot and/or SO operating the radios will notify the crew which agency is set in each radio, and update the crew when the radio set up changes.

5.8.2.1. Both pilots will monitor Ultra High Frequency (UHF) and Very High Frequency (VHF) guard emergency frequencies to the maximum extent possible.

5.8.2.2. The Federal Communications Commission (FCC) prohibits the use of unauthorized frequencies for interplane, HAVE QUICK, or SECURE VOICE training.

5.8.2.3. Due to the presence and activity of the cockpit voice recorder, caution will be exercised when discussing classified information over the interphone. Classified conversations will be limited to mission-essential information.

5.8.3. Crew Resource Management (CRM) Assertive Statement. Any crewmember may initiate a Knock-It-Off (KIO) for any situation where safety of flight is a factor, or a "Terminate" to cease maneuvering IAW AFI 11-214, *Air Operations Rules and Procedures,* (substitute "crewmembers" for references to "flight lead," "formation members," etc). In addition, any crewmember may initiate a "Time Out" call. The use of "Time Out" is intended primarily to focus CRM priorities and communications and will accomplish the following:

5.8.3.1. A clear warning of mis-prioritized crew actions, or of a pending deviation or loss of situational awareness.

5.8.3.2. An opportunity to break the error chain before a mishap occurs.

5.8.3.3. A notification to all crewmembers that someone sees the crew departing from established guidelines, the briefed scenario, or that someone is simply uncomfortable with the developing conditions.

5.8.4. As soon as possible after a CRM assertive statement has been called, the AC will accomplish the following:

5.8.4.1. For "Terminate" and "KIO", safety permitting, the aircraft will be stabilized and ensure safety of flight. Safety of flight will be ensured and it will be determined whether or not to continue the maneuver.

5.8.4.2. Time and situation permitting, the initiating crewmember will be allowed to voice their concerns.

5.8.4.3. Time and situation permitting, the AC will seek other crewmembers inputs relative to the stated concerns.

5.8.4.4. After considering all inputs, the AC will announce a course of action.

**5.9. Runway, Taxiway, and Airfield Requirements.** The AC is responsible for ensuring takeoff and landing data (TOLD) is properly computed. In addition to the restrictions listed in the aircraft performance manual, comply with the following:

5.9.1. Minimum runway width is 60 feet.

5.9.2. Minimum runway length for takeoff is Takeoff Field Length (TOFL) per the POH.

5.9.3. Minimum runway length for landing is Normal Landing Distance – Flaps Down per POH. A landing will not be made at an airfield from which a takeoff cannot be safely executed. (This does not apply to emergency situations).

5.9.4. Minimum runway length for touch and go landings is 6,000 feet or TOFL, whichever is greater. Use caution if TOFL is within 500 feet of actual runway length. Crews should ensure landings occur within the normal touchdown zone as a long landing preceding a touch-and-go may result exceeding available runway during an aborted takeoff.

5.9.5. Intersection Takeoffs. Normally, takeoffs from the beginning of the approved usable portion of the runway will be accomplished. Intersection takeoffs maybe accomplished at the AC's discretion if the requirements of **5.9.1** and **5.9.2** are met and provided the operating environment (gross weight, obstructions, climb criteria, weather, etc.) allows a safe takeoff and departure. Takeoff performance will be calculated based on the runway remaining from the point at which the takeoff is initiated.

5.9.6. Use of Overruns. If overruns are available, properly stressed, and authorized for normal operations, they may be used to increase the runway available for takeoff or landing.

5.9.7. Taxiing, takeoff, or landing over any ground obstruction or obstacle (arresting cable, tie down cable, etc) should be avoided if at all possible. Damage may result due to low clearance of CAT Pod or L3 faring. High speed taxi over ground obstructions, obstacles, or cables is prohibited due to possible CAT Pod damage.

5.9.8. During operations on runways partially covered with snow or ice, base takeoff computations on the reported Runway Surface Condition (RSC) or Runway Condition Reading (RCR) for the cleared portion of the runway. A minimum of 25 feet either side of

centerline should be cleared. If 25 feet either side of centerline is not cleared, takeoff data will be computed based on the non-cleared portion.

5.9.9. RCR Limitations. If a value is not reported, use RCR 12 for wet runways and RCR 5 for icy runways. Conversions from other braking action standards to RCR should be IAW DoD FLIP documents. Normally, RCR values are not reported for taxiways and ramps. During periods of reported low RCR, the taxiways and ramps may have an even lower RCR than reported for the runway. The runway surface should be considered wet when water on the runway causes a reflective glare.

5.9.9.1. Runways/taxiways with a reported RCR value less than 6 will not be used. **Exception:** The OG/CC may authorize crews to taxi on taxiways with a reported RCR value of 3 or greater.

5.9.10. Wind Limitations. Airfields will be considered below minimums for takeoff and landing when winds (including gusts) are greater than:

5.9.10.1. Maximum wind (any direction) – 50 knots.

5.9.10.2. Maximum tailwind component – 10 knots.

5.9.10.3. Maximum crosswinds. If Technical Order (T.O.)/aircraft performance manual data is unavailable, reference **Table 5.5**

**Table 5.5. MC-12W Crosswind Takeoff and Landing Limits.**

| RCR Values | 6 | 7 | 8 | 9 | 10 | 11 | 12 and above |
|---|---|---|---|---|---|---|---|
| Crosswind Component for Takeoff and Landing | 10 | 12 | 15 | 17 | 20 | 22 | 25 |

5.9.11. NVG landing zone personnel requirements. Qualified aircrews may conduct NVG operations at blacked-out airfields with an active control tower. For airfields or landing zones (LZs) without an active control tower, NVG operations require a landing zone safety officer (LZSO) and/or landing zone control officer (LZCO) IAW AFI 13-217, *Drop Zone and Landing Zone Operations*.

## 5.10. Aircraft Taxi and Taxi Obstruction Clearance Criteria and Foreign Object Damage (FOD) Avoidance.

5.10.1. Taxi distance from obstructions is IAW AFI 11-218, *Aircraft Operations and Movement on the Ground*, and MAJCOM supplements. The aircrew will use FOD avoidance efforts to minimize the potential for engine FOD. Crews will carefully review taxi routes, turn requirements, and areas for potential FOD.

5.10.2. Minimum taxiway width is 30 feet. There will be no obstacles over four inches high within 40 feet of taxiway centerline, and no obstacles over 24 inches high within 50 feet of taxiway centerline. The use of wing walkers should be considered if wingtips overhang an unprepared surface during taxi operations, and/or if obstacles may be a factor.

5.10.3. Reverse Taxi. The aircraft may be backed, using reverse, when no other means of moving the aircraft is available or when required for familiarization during qualification training. This procedure will not be used at any time for the purpose of preventing delays when towing equipment is available or when other aircraft or equipment can be moved to

provide adequate taxi clearance. Pilots shall exercise extreme caution during reverse taxi operations. A marshaller will be present for all reverse taxi operations. **Caution:** Using brakes to stop the aircraft while reverse taxiing may result in aircraft empennage contacting the ground (i.e., "tail tip").

**5.11. Functional Check Flights (FCFs) and Acceptance Check Flights (ACFs).** The MC-12W does not have an FAA maintenance requirement for FCFs and ACFs. Unit commanders may determine operational flight check requirements.

**5.12. Traffic Alert and Collision Avoidance System (TCAS).** It is imperative for pilots to follow resolution advisories (RAs) to obtain aircraft separation computed by TCAS. Failure to follow the computed RA may increase the probability of a midair collision. Pilots who deviate from an ATC clearance in response to an RA shall notify ATC of the deviation as soon as practical and promptly return to the ATC clearance when the traffic conflict is resolved or obtain a new clearance. When operating in a stack with 500' separation from other aircraft the AC may brief alternate responses to TCAS alerts or may select "TA only" provided that adequate separation can be confirmed visually.

**5.13. Radar Altimeter.** Before departure, the radar altimeter will be set for emergency return. Normally, the HAT or height above aerodrome (HAA) will be used for instrument meteorological conditions (IMC), or 400 feet for visual meteorological conditions (VMC) departures.

5.13.1. During Visual Flight Rules (VFR) en route and objective area operations, the recommended low altitude warning setting is 90 percent of intended cruise AGL altitude, if within radar altimeter operating limits.

5.13.2. For instrument approaches, the radar altimeter low altitude warning will be set to the appropriate HAT or HAA prior to the final approach fix (FAF).

5.13.3. For NVG instrument approaches, once the aircraft is VMC, both pilots have the runway in sight, and the aircraft is on a normal glide slope less than 1 mile from the threshold, the AC may reset the radar altimeter to facilitate NVG landing, if cockpit configuration gives overt-light warning for altitude below radar altimeter setting.

5.13.4. For VFR arrivals, the radar altimeter may be set at the discretion of the AC. The recommended low altitude warning setting is circling minimums or Minimum Safe Altitude (MSA), whichever is higher.

**5.14. Aircraft Recovery from Unprepared Surfaces.** Aircrews will not normally attempt to recover an aircraft after inadvertent entry onto unprepared surfaces not suitable for taxi. Ground crews will accomplish aircraft recovery. Unless an emergency dictates otherwise, aircrews may only accomplish recovery if there is no aircraft damage, the surface will support the aircraft, and the AC has coordinated with appropriate MAJCOM maintenance authorities.

**5.15. Fire Control, Emissions, Navigation, Communication, Emergency (FENCE) Checks.** Crewmembers will complete FENCE checks **(Attachment 2)** on all operational missions. Training missions may include FENCE checks as required to meet training objectives. Units may augment these checklists.

**5.16. Personnel Recovery/ On-scene Commander (OSC) Checklist.** The checklist in Attachment 3 will be used when required to assist in PR efforts or act as the OSC for a PR. Units may augment this checklist.

**5.17. Formation Flying.** Formation flying is prohibited for MC-12W aircraft.

# Chapter 6

# AIRCREW PROCEDURES

## *Section 6A—Pre-Mission*

### 6.1. Aircrew Uniform.

6.1.1. Aircrews will wear the aircrew uniform, as outlined in AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*, and the appropriate MAJCOM supplement, on all missions, unless otherwise directed.

6.1.2. OG/CCs will determine clothing and equipment to be worn or carried aboard all flights commensurate with mission, climate, and terrain involved.

6.1.2.1. Crewmembers will remove rings and scarves before performing aircrew duties.

6.1.2.2. All crewmembers will have Nomex gloves in their possession. Primary crewmembers will wear Nomex gloves during engine start, takeoff, landing, emergencies, and as directed by the AC.

**6.2. Personal Requirements.** Aircrew members will carry or wear personal and professional equipment as follows on all flights:

6.2.1. Hearing Protection. Hearing protection should be worn when personnel are working near hazardous noise-producing sources.

6.2.2. Flashlights. Each crewmember must carry an operable/NVG compatible flashlight on each flight.

6.2.3. Each crewmember will carry an operable headset on each flight.

6.2.4. All crewmembers will carry and perform a thorough preflight of their own NVGs prior to flight for missions using NVGs. If conducting NVG airland operations, the AC will preflight and focus one spare set of NVGs. Each crewmember will carry approved spare batteries for their own NVGs.

6.2.5. A reflective belt or suitable substitute will be worn on flight lines during hours of darkness or periods of reduced visibility.

### 6.3. Mission Planning Actions.

6.3.1. Crewmembers departing their local operating area will (at a minimum):

6.3.1.1. Review FLIP, NOTAMs, Operations Order (OPORD), Special Instructions (SPINS), Operational Risk Assessment, and Country Risk Assessment as applicable.

6.3.1.2. Review the Foreign Clearance Guide (FCG) for areas of operation (to include classified portion). Obtain necessary diplomatic clearances where required.

6.3.1.3. Receive current intelligence briefing from Intelligence (Intel). Aircrews will receive an intel briefing prior to sorties covering, mission events, terrorist activity, enemy, and friendly political and military development in the area in which they will be flying.

6.3.1.3.1. In theater, aircrews should receive intelligence updates on initial arrival at a forward operating location (FOL), or enroute stop, and thereafter when significant developments occur.

6.3.1.3.2. Aircrews should report information of possible intelligence value to the local intelligence office as soon as practical to ensure timely dissemination of mission reports (MISREPs).

6.3.1.4. Complete Isolated Personnel Report (ISOPREP) review.

6.3.1.5. Obtain sufficient communications security (COMSEC) materials for the duration of the mission.

6.3.1.6. Obtain terrain charts for unfamiliar destinations, if available.

6.3.1.7. Coordinate with supported units and the ISR Exploitation Cell (ISREC) or the designated Air Force Distributed Common Ground System (AF DCGS) when available, and identify mission specific planning considerations.

6.3.1.8. Obtain required customs forms.

6.3.1.9. Ensure physiological training, annual physical, immunizations, and flight evaluations will remain current for all crew members throughout the TDY period.

6.3.1.10. Compile sufficient spare forms, flight orders, etc. to cover the TDY period.

6.3.1.11. Consider any foreseeable safety risks and risk mitigation factors IAW ORM.

**6.4. Objective Area Planning.**

6.4.1. Chart Selection. Charts with a scale of 1:500,000 or greater detail are required for objective area operations. Charts with a scale of 1:250,000 or greater are highly desired.

6.4.2. Emergency Safe Altitude (ESA). An ESA is an altitude that will provide positive terrain clearance should IMC be encountered. A minimum of 1,000 feet (2,000 feet in mountainous terrain) above the highest obstacle or terrain feature within 10 nautical miles (NM) of the intended flight path/objective area will be used. An ESA will be computed for all objective areas, and all en route flight paths not on established airways. **Note:** Mountainous areas are defined as having a 500 foot change in surface altitude over ½ NM.

6.4.3. Minimum Safe Altitude (MSA). An MSA is an altitude that provides VMC terrain clearance and limited threat avoidance during degraded aircrew situational awareness or periods of task saturation. A minimum of 500 feet above the highest obstacle or terrain feature within 5 NM of the intended flight path/objective area will be used. An MSA will be computed for all objective areas, and an emergency escape route will be planned and briefed if MSA is higher than single-engine service ceiling.

6.4.4. Pilots will ensure all charts used for flight have the most current airspace, threats, and hazards posted, as well as ESA for all route/mission segments, and MSA for planned objective area(s). Aircrew will also ensure appropriate civil airspace is annotated along their route of flight. Crews will carry paper charts with sufficient detail to avoid terrain during normal and emergency operations, avoid civil and tactical airspace, and conduct objective area operations. Electronic maps (SENTRY/TORCH software, etc) provide significant situational awareness but may not be relied on as the sole source of navigation. **Warning:**

Failure to maintain an accurate altimeter setting during flight may cause lower than planned terrain clearances or impact with terrain when using the computed ESA/MSA; forecast minimum altimeter will be used if terrain clearance is questionable and/or local altimeter setting is unavailable.

6.4.5. Peacetime and Wartime SAFE PASSAGE Procedures. Pilots shall be familiar with peacetime and wartime safe passage of friendly military aircraft procedures.

**6.5. Call Signs.**

6.5.1. Training and operational missions. Crews will use unit assigned static call signs.

6.5.2. Search and Rescue. On actual search, rescue, and recovery missions, aircrews may use the call sign "Air Force Rescue" plus the last five digits of the aircraft tail number if directed by the Joint Personnel Recovery Center (JPRC).

**6.6. Aircrew Publication Requirements.** Crewmembers will have access to the following publications on all missions for the tail and model of aircraft flown (i.e. ER or Electronic Flight Information System (EFIS) 85).

6.6.1. Super King Air 350 POH and Pilot's Checklist with ISR Modification (Mod) Supplement, and any other supplements for equipment or performance data updates; all operating manuals for aircraft equipment (Flight Management System (FMS), Avionics, Enhanced Ground Proximity Warning System (EGPWS)/Terrain Avoidance Warning System (TAWS), etc.).

6.6.2. Pilot, SO and CO ISR Mod checklist.

6.6.3. G10118.00.25, *Mission System User's Manual for Hawker/Beech King Air B350 (KA B350)*, 1 March 2009,

6.6.4. G10129.00.25, *Mission System User's Manual for Hawker/Beech King Air B350 Extended Range (KA B350 ER) (FL-623 and Higher)*, 22 November 2009.

6.6.5. AFI 11-202, Volume 3, *Gneral Flight Rules*.

6.6.6. AFI 11-2MC-12W, Volume 3, *MC-12W Operations Procedures*, (this publication).

**6.7. Airfield Certification.** Aircrews will thoroughly review all available airfield and approach/departure information for airfields certification insuring AFI 11-202V3 compliance. The AC will ensure compliance with the international procedures in FLIP *General Planning* (GP), *Area Planning* (AP), and the FCG.

***Section 6B—Predeparture***

**6.8. Flight Crew Information File (FCIF).**

6.8.1. Crewmembers will review FCIF, Volume 1 and update the FCIF currency record before all missions or ground aircrew duties.

6.8.1.1. Instructor pilots who fly with General Officers are responsible for briefing appropriate FCIF items.

6.8.1.2. Go/No-Go status will be IAW AFI 11-202, Volume 2 and as supplemented. During exercises and contingencies, deployed squadrons will develop procedures to comply with this paragraph and local requirements.

6.8.2. Crew members delinquent in FCIF review or joining a mission enroute will receive an FCIF update from a primary aircrew member counterpart on the mission.

6.8.3. Crew members not assigned or attached to the unit operating a mission will certify FCIF review by entering the last FCIF number and their initials behind their name on the file copy of the flight authorization or file copy of their crew orders.

**6.9. Mission Kits.** Mission kits will be carried on all operational missions. Some items may be prepositioned on the aircraft. Suggested kit items include:

6.9.1. Publications:

6.9.1.1. AFI 11-401.

6.9.1.2. Flight Crew Bulletin (FCB).

6.9.2. Forms:

6.9.2.1. AF Form 457, *USAF Hazard Report*.

6.9.2.2. AF Form 651, *Hazardous Air Traffic Report (HATR).*

6.9.2.3. MAJCOM approved safety incident reporting form.

6.9.2.4. TOLD cards.

6.9.2.5. AF Form 711B, *USAF Mishap Report*.

6.9.2.6. AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*.

**6.10. Route Navigation Kits.** A route navigation kit will be carried on all flights. Kits contain sufficient quantities of material to cover planned and alternate missions as required. Minimum contents of route navigation kits (applicable to area of operation) are:

6.10.1. FLIP Instrument Flight Rules (IFR) Supplement.

6.10.2. FLIP Flight Information Handbook (FIH).

6.10.3. FLIP en route (high and low).

6.10.4. FLIP instrument approach procedures.

6.10.5. Standard instrument departures (for planned theater of operation).

6.10.6. Standard terminal arrival routes (STAR).

6.10.7. Topographical and sectional charts for areas of operation.

6.10.8. FLIP VFR supplement. **Note:** Local area navigation kits may be used in lieu of route navigation kits on local unit training sorties. Content of these kits is a local unit decision.

**6.11. Aircraft Commander Briefing/Pre-Mission Coordination.** The AC, or designated representative, will make every effort to coordinate with supported forces prior to the AC briefing. Briefing items will be IAW squadron Standard Operating Procedures (SOPs).

Accomplishing preflight planning IAW AFI 11-202V3, the AC will brief the following. (See **Attachment 4**.) All crew members should attend each briefing. Crew members may only be excused from specialized briefings for pre-flight duties; however, the AC will back brief all appropriate items.

6.11.1. Risk Management principals.

6.11.2. Weather.

6.11.3. Mission itinerary and profile.

6.11.4. Aircraft tail number and call sign.

6.11.5. Aircraft gross weight and fuel load.

6.11.6. Communications requirements and procedures.

6.11.7. Fuel reserve/Bingo fuel.

6.11.8. Airdrome restrictions and hazards.

6.11.9. Climb gradient required vs. climb gradient available.

6.11.10. Emergency procedures review.

**6.12. Instrument Flight Rules.** Flight operations will be conducted under IFR to the maximum extent possible without unacceptable mission degradation. Mission sorties/Mission Qualification Training (MQT) sorties may use VFR flight lieu of IFR when applicable. During CONUS VFR operations, crews should request ATC flight-following to the maximum extent possible.

**6.13. Flight Plan/Data Verification.** Computer flight plans (CFP) will be used to the maximum extent practical. The AC has final responsibility for flight plan accuracy and diplomatic clearance compliance. Advanced CFP (ACFP) and Portable Flight Planning Software (PFPS) are approved CFP software. **Note:** MAJCOMs may approve additional flight planning software as required.

**6.14. Departure Planning.** AFI 11-202V3, AFMAN 11-217V1, *Instrument Flight Procedures*, this chapter, and appropriate MAJCOM supplements will be used for departure planning. TOLD will be computed using Super King Air POH/ISR Mod Supplement, Jeppesen-produced Special Departure Procedures, and/or OGV-approved performance data extracts. All TOLD computations should be verified by both pilots.

6.14.1. VFR Departures. VFR departures will not be flown in lieu of obstacle clearance planning.

6.14.1.1. VFR departures to an IFR minimum en route altitude (MEA) or MSA are authorized when there is no authorized IFR departure method for the airport, when the aircraft cannot depart using one of the IFR departure methods contained in AFI 11-202V3 and AFMAN 11-217V1 or when operational requirements dictate (i.e. tactical necessity). A VFR climb to an IFR MEA/MSA is only to be used as a last resort when the mission priority dictates increased risk. This guidance does not apply to planned VFR training or operational flights where the majority of the flight is to be conducted under VFR. VFR departures require detailed planning to ensure obstacles and high terrain are avoided.

6.14.1.2. The minimum climb performance for VFR departures is determined by ensuring all the following conditions are met:

6.14.1.2.1. All-engine climb capability ensures obstacle avoidance along the departure route.

6.14.1.2.2. One Engine Inoperative (OEI) climb capability shall ensure departure and emergency return route provides obstacle avoidance. **Note:** If unable to comply with any of the above conditions, download cargo/fuel or delay until more favorable conditions exist.

6.14.1.2.3. FLIP for host nation VFR requirements will be referenced before flying VFR outside the United States.

6.14.1.2.4. When departing VFR, VFR cloud clearances will be maintained until obtaining an IFR clearance.

6.14.2. IFR Departures. Aircrews must use an approved IFR departure method as outlined in AFI 11-202V3 and AFMAN 11-217V1.

6.14.2.1. An IFR departure is not authorized at airfields without an instrument approach.

6.14.2.2. All climb gradient guidance in AFI 11-202V3 and AFMAN 11-217V1 for all engines operating (AEO) and OEI will be complied with.

6.14.2.3. With Squadron Operations Office (SQ/DO) approval MC-12W aircrews are permitted to subtract 48 feet/nautical mile (ft/nm) from the published climb gradient to compute OEI requirements when the mission priority justifies the increased risk.

6.14.2.4. With SQ/DO approval MC-12W aircrew are authorized to utilize OEI Special Departure Procedures (SDP) available for the MC-12W. SDPs are Mission Design Series (MDS)-specific OEI escape procedures intended only for emergency use after the loss of an engine. Appropriate ORM practices will be incorporated in the approval process to ensure each mission's requirements outweigh the additional risk of using this method for OEI compliance. MC-12W SDP website login information will be made available after training completion during MQT.

6.14.2.4.1. Each aircraft commander must be appropriately trained and certified in SDPs. SDP certification will be documented as a Special Certification IAW AFI 11-2MC-12W Volume 1.

6.14.2.4.2. Aircrew will utilize SDP for OEI planning IAW AFI 11-202V3.

6.14.2.4.3. The MC-12 is authorized for Radar Navigation (RNAV) (FMS) Navigation Aid (NAVAID)/Waypoint Substitution on SDP. Additional guidance for use of RNAV substitution on SDP includes the following:

6.14.2.4.3.1. Aircraft must be capable of using RNAV as the primary means of navigation with a successful Receiver Autonomous Integrity Monitoring (RAIM) check accomplished. The GPS solution must meet the required accuracy for terminal area operation.

6.14.2.4.3.2. Named waypoints/NAVAIDs must be available in the navigation database. Named waypoints or NAVAIDs that exist in the FMS database will not

be entered into the FMS using latitude/longitude, place/bearing-place/bearing/or place/bearing/distance in lieu of names.

6.14.2.4.3.3. Building and manually entering waypoints/fixes into the FMS for SDP use is permitted as user defined data. This includes entering fixes or intersections that are defined by place/bearing-place/bearing or place/bearing/distance from named waypoints/NAVAIDs. **Note:** If the requirements of AFI 11-202V3 and AFMAN 11-217V1 cannot be met, cargo/fuel will be delayed or aircrew should delay until more favorable conditions exist.

6.14.3. NVG Departures.

6.14.3.1. NVG Departure Weather Minimums. Pilots may use NVGs to assist in instrument takeoffs as mission requirements dictate. Current and qualified NVG airland aircraft commanders may fly NVG departures in weather minimums no lower than 300/1. Crews must give careful consideration to potential hazards during this critical phase of flight. Other weather limitations are IAW this instruction and AFI 11-202V3. NVGs have inherent limitations which can further be reduced by poor weather conditions. Crews will consider weather conditions, moon illumination and position, sky glow at dawn and dusk, cultural lighting, and weapon/expendable effects when planning NVG operations.

6.14.3.2. NVG Malfunctions during Takeoff. During an NVG takeoff, if the Pilot experiences NVG failure, takeoff may be continued at the discretion of the AC. If NVG malfunctions occur after the pilot not flying states "GO", consideration should be given to either continuing the takeoff as the Pilot transitions to white-light operations or transfer operational control of the aircraft if appropriate. If either pilot's NVGs fail after takeoff, the climb out should be continued and the appropriate procedures for loss of NVGs should be followed. The PNF will be ready to immediately assume aircraft control if the pilot experiences spatial disorientation or an NVG malfunction. Pilots must exercise sound and conservative judgment to continue NVG operations with aircraft malfunctions. **Warning:** NVGs and associated components (battery cords, safety cords, and other hardware) can become entangled with emergency equipment, overhead panel switches, or other controls. Any interference can cause inadvertent engine shutdown, or repositioning of other critical switches or controls.

**6.15. Weather Minimums for Takeoff.** Minimum Runway Visual Range (RVR) for takeoff is 1,600 feet on normal or training missions, and minimum RVR of 1,000 feet for operational sorties. If RVR is not available for the departure runway, visibility must be reported to be 1/2 mile (800 meters). When weather is below approach and landing minimums a departure alternate is required. (See paragraph **6.17**)

**6.16. Alternate Planning.** Alternate airports meeting the requirements of AFI 11-202V3 will be selected. Alternates that are not restricted by FLIP, FCG, or diplomatic clearances, and are compatible with the mission load and performance characteristics of the aircraft will be selected. The AC retains final authority in the choice of alternates; however, selection by support agencies normally should be used if they meet the above criteria and the aircraft has already been serviced.

**6.17. Departure Alternates.**

6.17.1. A departure alternate is required if weather (ceiling or visibility) is below landing minimums for the available approach (at the departure aerodrome).

6.17.2. Suitability of Departure Alternates. When a departure alternate is required, the aircraft must be capable of maintaining the MEA or Off Route Obstruction Clearance Altitude (OROCA), whichever is higher, to the alternate using OEI performance criteria. To qualify as a departure alternate, the airfield must meet one of the following conditions:

6.17.2.1. For an alternate within 30 minutes flying time, the existing weather must be equal to or better than the published approach minimums and forecast to remain so until 1 hour after takeoff, but in no case forecast to be lower than 200-1/2 (RVR 2400), or;

6.17.2.2. For an alternate within 1 hour flying time, the existing weather must be at least 500-1 above the lowest compatible published approach minimums, but not less than 600-2 for a precision approach or 800-2 for a non-precision approach, and forecast to remain so for 1 hour after estimated time of arrival (ETA) at the alternate. **Note:** OG/CC may approve the use of an alternate up to 2 hours away. Weather/approach requirements of para **6.17.2.2** will be complied with.

**6.18. Destination Requirements (for filing purposes).** The forecast destination weather will be according to AFI 11-202V3 and ACC Supplement (ACCSUP) 1 for the following.

6.18.1. File two alternates when:

6.18.1.1. The forecast visibility (intermittent or prevailing) is less than published for the available DoD or National Aeronautical Charting Office (NACO) precision approach; or

6.18.1.2. The forecast ceiling or visibility (intermittent or prevailing) is less than published for all non-precision DoD/National Geospatial Agency (NGA)/NACO approaches. For approaches with no published ceiling requirement (for example Jeppesen approaches), the minimum required ceiling shall be computed by taking the published HAA or HAT and rounding it up to the nearest one hundred feet (or as determined by MAJCOM terminal instrument procedures (TERPS) review). For example, a Jeppesen VHF Omni-Directional Radio Range (VOR) approach with a published HAA of 642 feet would require a forecasted ceiling of 700 feet; or

6.18.1.3. The forecast surface winds (intermittent or prevailing) exceed 150% of limits corrected for RCR.

6.18.2. File an alternate, regardless of forecast weather, when the destination aerodrome is outside the CONUS. **Exception**: OCONUS, intra-theater flights comply with basic AFI 11-202V3.

6.18.3. When filing to a remote or island destination, aircrews may use 1+15 holding fuel (in lieu of an alternate). Holding fuel using planned destination gross weight at flight level (FL) 200 will be computed. A remote or island destination is defined as any aerodrome, which due to its unique geographic location, offers no suitable alternate (civil or military) within 2 hours flying time. The forecast weather at the remote or island destination must meet the following criteria:

6.18.3.1. The prevailing surface winds, corrected for RCR, must be within limits at ETA and forecast to remain so for 2 hours thereafter, and

6.18.3.2. The prevailing ceiling and visibility must be equal to or greater than published minimums for an available non-precision approach. An airfield will be considered to be a remote or island destination when its location precludes flight to a suitable alternate. The weather forecast for this destination airfield must be equal to or better than the weather requirements for an alternate airfield listed below.

6.18.4. Weather. For an airport to qualify as an alternate, the worst weather (temporary (TEMPO) or prevailing) for the ETA (±1 hour) at the alternate airport must be forecast to be at or above the following:

6.18.4.1. With a Published Instrument Approach Procedure:

6.18.4.1.1. A ceiling of at least 500 ft. above the lowest compatible approach minima and a visibility of at least 2 Statute Miles (SM) or published visibility minima whichever is greater.

6.18.4.1.2. Without a Published Instrument Approach Procedure. Forecast weather for the ETA (±1 hour) must permit a VFR descent from the IFR en route altitude to a VFR approach and landing.

6.18.4.1.2.1. -(Added-ACC) If radar is required for the only suitable approach at the alternate, weather requirements at the alternate are the same as for an alternate without a published approach procedure. (ACCSUP 1 to AFI 11-202V3 see paragraph 8.5.1.2.) **Note:** Most weather forecasts are only valid plus or minus 1 hour from ETA.

**6.19. Adverse Weather.**

6.19.1. Turbulence. Flight into areas of forecast or reported severe turbulence is prohibited.

6.19.1.1. Crews should confirm the type of aircraft the forecast turbulence applies to, or what type of aircraft reported the encounter, to gain a more accurate picture for their route of flight.

6.19.1.2. Flight into an area of known or forecast moderate or greater mountain wave turbulence is prohibited. Mountain wave turbulence is normally a predictable condition. Military weather forecasters can advise crews of the potential for encountering mountain wave turbulence. However, weather data availability in mountainous regions and forecast model limitations prevent the prediction of all events. Crews must be familiar with the causes of mountain wave turbulence and the characteristic clouds that generally forewarn its presence. **Warning:** Serious injury may occur if aircrews do not have their seat belts fastened and the aircraft encounters moderate or severe turbulence.

6.19.2. Cold weather altitude correction. When performing approaches and landings at locations where temperatures are 0°C or below, refer to the POH Section 5 page 5-33, Indicated Outside Air Temperature (OAT) Correction Chart, and AFI 11-202V3 Temperature Correction paragraph, to ensure adequate obstacle clearance.

6.19.3. Icing. Flight into areas of forecast known or reported severe icing is prohibited. Prolonged operation, such as cruise flight or holding, in areas of moderate icing should be avoided. **Note:** Air Force Weather Agency (AFWA) technical note (TN) AFWA/TN 98/002, *Meteorological Techniques*, states that freezing drizzle is equivalent to moderate icing and freezing rain is equivalent to severe icing. When freezing fog is forecast or

reported, aircrews should confirm with the local weather agency what type (if any) icing is associated with the freezing fog.

6.19.3.1. Takeoff under conditions of freezing rain is prohibited. Takeoff under conditions of freezing drizzle will not be accomplished except when aircraft has been properly de-iced/anti-iced IAW flight manual procedures.

6.19.3.2. Freezing precipitation, snow, freezing fog, or temperatures below 0°C, may cause ice or frost to accumulate on aircraft surface. When an aircraft requires de-icing/anti-icing prior to takeoff, refer to the following:

6.19.3.2.1. Aircrews will only use de-ice and anti-ice fluid types (i.e. I, II, IV) listed in their respective flight manual. Aircrews will be familiar with, and follow all restrictions in their associated flight manual with respect to anti-ice/de-ice procedures.

6.19.3.2.2. MIL-A-8243 Type I and Type II de-icing fluids do not provide any anti-icing benefit, and therefore do not have holdover times. As a guide, for approved anti-icing fluids, crews may use published anti-icing holdover times IAW T.O. 42C-1-2, Aircraft Anti-icing Procedures, and Air Force Flight Standards Agency (AFFSA) holdover tables located at the HQ AFFSA website. The holdover time begins when anti-icing fluid is first applied and the AC shall use time, temperature, and dilution of mixture to determine when times are exceeded and re-apply fluid if required.

6.19.3.2.3. In all cases, ACs will ensure a visual inspection of the aircraft is completed within 5 minutes of departure.

6.19.4. Thunderstorms. Do not fly above (within 2,000 ft) thunderstorms or cumulonimbus clouds.

6.19.4.1. If unable to vertically clear thunderstorms or cumulonimbus clouds, by at least 2,000 ft:

6.19.4.1.1. Avoid thunderstorms by 20 NM at or above FL 230.

6.19.4.1.2. Avoid thunderstorms by 10 NM below FL 230.

6.19.4.1.3. Avoid thunderstorms by 5 NM for combat operations below FL 230, if mission requirements dictate.

6.19.4.1.4. Avoid gust fronts and winds preceding a rapidly moving thunderstorm. **Caution:** Aircraft damage may occur 20 NM or more from any thunderstorm. Aircrews must familiarize themselves with information on thunderstorm development and hazards. Aircrews should refer to AF Handbook (AFH) 11-203, Volumes 1 and 2, *Weather for Aircrews*.

6.19.4.2. Aircrews should avoid flying in areas of recently dissipated thunderstorms and advected clouds (horizontal movement of clouds caused by wind) downwind of thunderstorms.

6.19.4.3. In order to minimize exposure to thunderstorm hazards when approaching or departing an airport in an area where thunderstorms are occurring or are forecast:

6.19.4.3.1. Attempt to maintain VMC.

6.19.4.3.2. Maintain at least 5 NM separation from heavy rain showers

6.19.4.3.3. Avoid areas of high lightning potential, i.e. clouds within plus or minus 5,000 feet of the freezing level or plus or minus 8°C of the freezing level. **Note:** Approaches or departures may be accomplished when thunderstorms are within 10 NM providing they are not producing any hazardous conditions (such as hail, lightning, strong winds, gusts fronts, heavy rain, wind shear, or microburst) at the airport, and are not forecast or observed to be moving in the direction of the route of flight (to include the planned missed approach corridor, if applicable).

6.19.5. Volcanic Dust Precautions. Aircraft flight operations in areas of forecast or known volcanic activity or dust is prohibited. All missions will be planned to avoid volcanic activity by at least 120 NM.

**6.20. Operational Risk Management (ORM).** ORM is a logic based, common sense approach to making calculated decisions on human, material, and environmental factors before, during, and after all operations. USAF policy on ORM is contained in AFI 90-901. ACs will accomplish ORM worksheets IAW MAJCOM and local guidance as part of preflight activities.

***Section 6C—Preflight***

**6.21. MC-12W Aircraft Forms.** MC-12W Aircraft Forms will be reviewed before applying power to the aircraft or operating aircraft systems. Aircraft must be released for flight by Contract Logistics Support (CLS) personnel and documented in the MC-12W Aircraft Forms. Ensure DoD Fuel Identaplate, and Multi-Service Corporation (MSC) card are aboard the aircraft. The condition of equipment required for flight in special use airspace (Reduced Vertical Separation Minimums (RVSM), Required Navigation Performance (RNP), Minimum Navigation Performance Specification (MNPS), etc.) will be ascertained. Aircrews will ensure that maintenance action has been taken to correct defects to required equipment if applicable.

**6.22. One-Time Flights.** An aircraft may be released for one-time flight IAW 14 CFR 21.197 or 21.199 as applicable with a condition that might be hazardous for continued use, provided the aircraft is airworthy for one flight to another station as determined by the MC-12W CLS aircraft maintenance superintendent and with the concurrence of 645 AESS/EN and the AC. The 645 AESG will act in the place of the FAA Administrator for acceptance/approval.

**6.23. Aircraft Recovery Away from Main Operating Base (MOB).** The AC is responsible for ensuring the aircraft is turned to meet subsequent mission taskings. AC will ensure proper ground handling, services, and security personnel are available at the planned non-MOB location. If qualified personnel are unavailable, the aircrew is responsible for turning the aircraft to meet subsequent mission taskings.

6.23.1. In those instances where maintenance personnel are not available and crew members are not qualified to accomplish the required ground inspections, the AC will enter a red dash symbol in the MC-12W Aircraft Maintenance Forms updating current status and enter a red dash symbol and a discrepancy that reflects that the applicable maintenance inspection (i.e. preflight, thru-flight, basic post-flight) is overdue on the Discrepancy and maintenance Work Sheet.

**6.24. Aircrew Flight Equipment.**

6.24.1. Oxygen. Oxygen on board for takeoff must be sufficient to accomplish the planned flight from the equal time point (ETP) to recovery should oxygen be required.

6.24.1.1. One Emergency Passenger Oxygen System (EPOS) should be available for the SO and CO each. EPOSs will be distributed before departure. For training or local area orientation flights with additional crewmembers or passengers/observers, EPOS will be available for all crewmembers. For operations in mountainous terrain, extended overwater ops, or austere areas with few divert bases, the AC should consider equipping the crew with additional EPOS.

6.24.1.2. Crewmembers occupying a crew station will have an oxygen mask connected and readily available for use from before engine start until after engine shutdown.

6.24.2. Rafts. On overwater flights, a life raft will be carried when the distance from land at the planned cruising altitude exceeds a glide ratio of approximately 2 miles per 1,000 feet (12:1 glide ratio). For example, if planned cruising altitude is FL240, a life raft would be required if flying more than 48 miles from land.

6.24.3. Life preserver units (LPU)-10/P or Personal Floatation Device (PFD). Aircrews will ensure the appropriate number and type of life preservers are aboard for overwater missions. Each aircrew member will ensure an LPU-10/P is fitted and within easy reach before takeoff on overwater flights (outside gliding distance to land).

6.24.3.1. LPUs need not be worn for takeoffs, landings, and approaches.

6.24.3.2. LPUs will be worn for overwater missions below 2,000 feet.

6.24.4. Anti-exposure suits will be worn by all aircrew and passengers on flights which are beyond engine out gliding distance from land and the water temperature is 60°F (16°C) or less. Anti-exposure suits for the aircrew and passengers are issued/fitted by Aircrew Flight Equipment (AFE) personnel.

***Section 6D—Departure***

**6.25. On Time Takeoffs.** Mission departures are on time if the aircraft is airborne within -20 to +14 minutes of scheduled takeoff time or as specified in a MAJCOM supplement.

***Section 6E—En route***

**6.26. Flight Progress.** In-flight, all available navigational aids to monitor the FMS performance will be used. In the event of malfunction or any loss of navigation capability that degrades navigational accuracy immediately report the malfunctions to the controlling air route traffic control center (ARTCC).

6.26.1. The MC-12W is certified for RNAV (GPS) RNP-5 en route operations. RNAV/GPS en route procedures training/certification is incorporated into pilot initial qualification training.

6.26.2. See **Table 12.1** for complete listing of MC-12W Communication, Navigation System (CNS)/Air Traffic Management (ATM) approved operations.

**6.27. Reduced Vertical Separation Minimum (RVSM) Airspace.** RVSM airspace is any airspace or route between FL 290 and FL 410 inclusive where aircraft are separated vertically by

1,000 ft (300 m). The MC-12W is certified for operation in RVSM airspace. Further RVSM operating criteria is IAW AFI 11-202V3, FLIP GP and applicable AP guidance.

6.27.1. If any required equipment fails prior to or after aircraft entry into RVSM airspace, the AC will notify the controlling agency and should request a new clearance to avoid flight in this airspace unless ATC grants clearance. Required equipment includes:

6.27.1.1. Two primary altitude measurement systems.

6.27.1.2. One automatic altitude-control system (autopilot).

6.27.1.3. One altitude-alerting device.

6.27.1.4. An operational Transponder.

**6.28. Communications Instructions for Reporting Vital Intelligence Sightings (CIRVIS) and Other Reports.** All vital intelligence sightings from aircraft will be reported as indicated in FLIP planning or FLIP en route Supplement.

6.28.1. In-flight harassment or hostile action against aircraft. Aircraft subjected to harassment or hostile action by foreign aircraft will immediately contact the nearest USAF air and ground voice facility and report the encounter. The aircraft nationality, type, insignia, or any other identifying features will be reported; the position, heading, time, speed and altitude when harassed, and the type of harassment will be noted. Relay of the report to the nearest C2 agency will be requested.

6.28.2. Other incidents will be reported as indicated in AFI 10-206, *Operational Reporting*.

**6.29. In-Flight Meals.** Pilots should not eat meals at the same time and their meals should consist of different menu items.

**6.30. High Frequency (HF) Communications.** Crews should conduct a HF radio ground check (for aircraft so equipped), if use of the HF radio may be required for ATC or C2 communications. If unable to establish HF contact with the controlling HF station, and an alternate means of relay of ATC information is not available, the aircraft should follow theater guidance (refer to FLIP AP 1/2/3) or return to the nearest suitable support base for repairs.

**6.31. In-flight Emergency Procedures.**

6.31.1. Single Engine Considerations. The AC will ensure there is enough fuel available to continue to a suitable airfield, should an engine failure occur. Fuel burn at 10,000 feet Mean Sea Level (MSL) or single engine service ceiling (whichever is lower) will be computed.

6.31.2. Single Engine Drift Down. Some operations over mountainous regions require minimum en route altitudes that are higher than the airplane's single engine service ceiling. In those cases, an adequate margin of safety may be obtained by cruising at an altitude higher than the minimum IFR altitude so as to allow drift down to the single engine service ceiling in the event of an engine failure. Drift down cruise during single engine operation would result in reaching the end of the route segment at an altitude equal to or greater than the minimum IFR altitude. The AC will ensure the aircraft can maintain the minimum IFR altitude for the entire route of flight with one engine inoperative.

**6.32. Weather Forecasts.** The pilot is responsible for obtaining destination weather prior to arrival in the terminal area.

6.32.1. The primary means of obtaining weather forecasts is for the home station weather flight to provide or arrange for forecast support. If this is not practical while in a transient status, contact the supporting Operational Weather Squadron (OWS) for the region the flight will originate. OWS areas of responsibility can be found in the FIH/FLIP.

6.32.2. The ATC system can provide weather information to en route aircraft. In addition, weather information may be obtained through Automatic Terminal Information Service (ATIS) and or the Automated Weather Observation System (AWOS).

6.32.2.1. The ARTCCs have a limited capability to provide weather information to en route aircraft within CONUS. Significant Meteorological Information (SIGMET) and other National Weather Service in-flight weather advisories are issued for large areas. Appropriate military weather facility or flight service station will be contacted to determine mission applicability and impact.

***Section 6F—Arrival***

**6.33. Descent.** Before descent into unfamiliar areas, pilots will review appropriate terrain charts to increase aircrew situational awareness of obstructions. Primary crewmembers will not be involved in duties other than aircraft operations, descent and approach monitoring, and required checklist items from the initial descent point to landing.

6.33.1. Weather Operations. Pilots should fly a precision approach, if available, at night or during marginal weather unless accomplishing NVG tactical arrival in VMC IAW paragraph **16.4.3**

6.33.1.1. A visual approach may be flown during night VFR conditions if an approved straight-in instrument approach to the landing runway is not available, an NVG tactical approach is desired, or to accomplish required continuation training.

**6.34. Instrument Approach Procedures.**

6.34.1. Aircraft category. The MC-12W is a Category "B" aircraft. If approach speeds exceed 120 KIAS, use Category "C" approach minimums. If approach speeds exceed 140 KIAS, use Category "D" approach minimums.

6.34.2. RNAV (GPS) approach procedure training/certification is incorporated into pilot initial qualification training (IQT).

6.34.3. Non-directional beacon (NDB) Procedures. NDB approaches may be flown during day, night, or IMC conditions.

6.34.4. Weather minimums. Before starting an instrument approach pilots will confirm the existing weather is reported to be at or above required approach minimums.

6.34.4.1. Circling Approach. Weather must be at or above both the published ceiling and visibility minimums.

6.34.4.1.1. Multi-pilot aircraft in day IMC require weather conditions at or above published circling minimums for the approach to be flown.

6.34.4.1.2. Multi-pilot aircraft at night require weather conditions at or above 1,000 ft ceiling and 2 SM visibility or circling minimums, whichever is higher.

6.34.4.2. The published visibility minimums of an instrument approach will be increased by ½ SM or as noted in NOTAMs, on ATIS, or on the approach plate, when the runway approach lighting system (ALS) is inoperative. This applies only to the ALS itself, not to visual approach slope indicator (VASI), precision approach path indicator (PAPI), and other lights that are not a component of the ALS.

6.34.4.3. If the ceiling is below the value depicted for published precision approach, but visibility is at or above authorized minimums, the AC will comply with fuel requirements of **Chapter 14**, before initiating en route descent, penetration, or approach.

6.34.5. Flight Instrumentation Requirements.

6.34.5.1. Full flight instrumentation for a Category I (CAT I) Instrument Landing System (ILS), for the pilot flying the approach, consists of an attitude director indicator (ADI), a CDI, a means to identify the NAVAID (either aurally or by verifying the correct station identifier on the distance measuring equipment (DME) indicator), complete differential pressure instruments, and heading/compass systems.

6.34.5.2. Full flight instrumentation for a precision approach radar (PAR), for the pilot flying the approach, consists of complete differential pressure instruments, heading/compass systems, and an attitude indicator.

**6.35. NVG Approach and Landing. Note:** NVGs have inherent limitations which can further be reduced by poor weather conditions. Crews will consider weather conditions, moon illumination and position, sky glow at dawn and dusk, cultural lighting, and weapon/expendable effects when planning NVG operations.

6.35.1. SQ/DO or SQ/CC approval is required for any training or operational missions conducted when lunar illumination is forecast to be less than 10% during the mission. ACs will brief squadron leadership on risk mitigation measures. **Warning:** NVGs worn during flights with illumination less than 10% and/or limited cultural lighting ("black hole" conditions) can lead to induced motion illusions and spatial disorientation. Crews should exercise increased vigilance, and maintain a composite crosscheck referencing flight instrumentation.

**6.36. Classified Equipment and Material.** Aircrews will comply with the following or as directed in MAJCOM supplement.

6.36.1. Equipment. When classified equipment is onboard, the C2 center or base operations office must be made aware of the requirement for aircraft security IAW **Chapter 7** of this AFI. At bases not under jurisdiction of the AF, aircraft and equipment protection must be assured. AFI 31-401, *Information Security Program Management*, provides specific guidance concerning the security of various levels of classified equipment aboard aircraft. For classified aircraft components which cannot be removed and stored, the aircraft should be locked. If available, Ravens should be used to guard the aircraft; otherwise, guards employed by the host country for flightline/airport area control should be used. Classified information stored in navigation or radio equipment should not be left unguarded.

6.36.2. Material. Aircrews will ensure COMSEC and other classified materials are turned in at destination and receipts are obtained for COMSEC and classified material. The on-site C2 center will provide temporary storage for COMSEC and other classified materials during en

route, turnaround, and crew rest stops. If a storage facility is not available, the aircraft gun storage box may be used for material classified up to and including SECRET. Encrypted COMSEC will only be transferred to authorized DoD personnel. IAW Air Force Systems Security Instruction (AFSSI) 3021, *Operational Security Instruction for the AN/CYZ-10/10A Data Transfer Device (DTD),* after picking up material from a security facility, the crypto-ignition key (CIK) should be removed from the CYZ-10 and only inserted into the CYZ-10 when using this device.

6.36.2.1. Remain overnight (RON) COMSEC Storage. Refer to AFI 33-201V1, *Communications Security (COMSEC),* for additional guidance. Every effort should be made to store classified material in a secure facility (i.e. Base Operations/Command Post) if that facility exists. If remaining overnight at a location that does not or cannot provide this storage capability, then the following procedures should be used:

6.36.2.1.1. If carrying an electronic keyed device, (i.e. CYZ-10), the key will be removed from the device and carried by one of the pilots or SOs. The device will be placed somewhere on the aircraft not in plain view (i.e. under a seat, in a closet, in the baggage compartment).

6.36.2.1.2. If using a KOI-18 or KYK-13, the entire device may be placed in its sealable/tamper-resistant pouch and placed in a securable storage box. The pouch will be locked and the key will be kept by an aircrew member.

6.36.2.1.3. All classified documents (authenticators, SPINS extracts, etc) will be locked in a securable storage box. The key to the box will also be carried at all times by one of the pilots. The aircraft will then be locked, including the emergency exit. If a securable storage box is not installed on the aircraft, the aircrew must ensure pouch is secured in an appropriate base facility. Upon return to the aircraft, the crew must inspect the aircraft and documents for tampering and report any suspected or possible compromise immediately, even if it delays the mission.

6.36.3. Aircrews will ensure that they have an operable Mode 4 when required for mission accomplishment. Aircrews will conduct an operational ground test of the Mode 4 (ground test assets permitting) before deployment overseas, or as specified in the OPORD or contingency/exercise tasking.

6.36.4. Attempts will be made to fix an inoperable Mode 4 before takeoff. Takeoff will not be delayed nor the mission cancelled due to an inoperable Mode 4, except when the aircraft will transit an area where safe passage procedures are implemented.

6.36.5. An in-flight check of the Mode 4 will be conducted on all missions departing the CONUS for overseas locations. Aircrews can request the Mode 4 interrogation check through North American Aerospace Defense Command (NORAD) on UHF frequency 364.2.

6.36.6. Aircraft with inoperable Mode 4 will continue to their intended destinations. Repairs will be accomplished at the first destination where equipment, parts, and maintenance technicians are available. In theaters where safe passage is implemented, aircraft will follow procedures for inoperable Mode 4 as directed in the applicable Airspace Control Order (ACO).

6.36.7. Ground and in-flight checks of Mode 4 Identification, Friend or Foe (IFF), when conducted, is mandatory maintenance debrief items. Crews will annotate successful and unsuccessful interrogations of the Mode 4 in the MC-12W Aircraft Forms and Flight Log Discrepancy and Maintenance Work Sheet.

6.36.8. Aircrews will carry COMSEC equipment and documents required to operate the Mode 4 on missions when required for mission accomplishment. Before departing for any destination without COMSEC storage facilities, crews will contact their local COMSEC managers for guidance. If capable, the AC should erase Cockpit Voice Recorder (CVR) data for missions where interphone discussions included classified information. For any mishap or other event where CVR data is required for post-mission analysis, do not erase the CVR; comply with paragraph **6.39**. If CVR is not erased, ensure the aircraft is secured according to the classification level of the conversation recorded.

6.36.9. Emergency Destruction. Destroy/damage classified material/equipment prior to a crash landing if possible. If the situation does not permit securing of classified material during ground egress, aircrew will obtain the names and telephone numbers of all un-cleared emergency responders and/or maintenance personnel who boarded the aircraft and were exposed to classified material. If Special (or Sensitive) Compartmented Information (SCI) material was inadvertently disclosed, the System Security Officer (SSO) will be contacted to conduct an inadvertent disclosure briefing to those members exposed to SCI.

**6.37. Maintenance.** MC-12W Aircraft forms will be completed after each flight. After landing, crewmembers will debrief maintenance personnel on the condition of the aircraft. At stations where there is no maintenance, and maintenance support is required, crews should contact their home unit or maintenance contractor for guidance. Controlling C2 and home station will be notified of maintenance status before entering crew rest.

6.37.1. Aircrews will ensure that the engine trend data sheet is completed during flight and entered into aircraft forms post-flight.

***Section 6G—Miscellaneous***

**6.38. Aircrew Debrief.**

6.38.1. The AC, or designated representative, will make every effort to debrief with supported forces and/or ISREC or designated AF DCGS unit, as available following each mission. If not practical immediately after landing, the AC is responsible for coordinating with squadron leadership for subsequent debrief.

6.38.2. The AC will conduct a crew debrief will all crewmembers following each flight. Debrief will be IAW squadron SOPs. Crewmembers should use and assess all available training documentation, such as digital recording devices, on all missions. Individual crewmembers should review applicable portions of mission records to enhance training. As a guide, the following items should be reviewed after every mission: weapons/sensor parameters, accuracy, identification procedures, adherence to training rules, communications procedures and discipline, flight discipline, CRM, and tactical employment.

6.38.3. The AC will ensure all crewmembers complete mission/training event summaries IAW squadron SOPs.

6.38.4. The AC will complete a post-mission report IAW squadron SOPs.

**6.39. Cockpit Voice Recorder (CVR).** If involved in a mishap or incident, after landing and terminating the emergency, the CVR power circuit breaker (CB) will be pulled. Aircrews will ensure aircraft is secured IAW **6.36.8** and **Chapter 7**.

**6.40. Aircrew Flight Equipment (AFE) and MC-12W Equipment.** Prior to departure, aircrews will ensure appropriate life support, survival, and MC-12W equipment is aboard the aircraft.

6.40.1. Prior to departure, aircrews will review, sign, and date the AFTO Form 46, *Pre-positioned Aircrew Flight Equipment*.

6.40.2. Prior to departure, aircrews will ensure survival gear configuration matches mission requirements. For over-water missions, aircrews will confirm appropriate number and type of life preservers are aboard.

6.40.3. Aircrew members discovering equipment missing will:

6.40.3.1. Make an MC-12W Aircraft Forms entry for mission equipment.

6.40.3.2. Annotate AFTO Form 46 in the next vacant column indicating the quantity remaining for the item.

6.40.4. ACs will determine whether or not to replace the missing equipment before continuing the mission.

**6.41. Impoundment of Aircraft.** If an aircraft is involved in a serious in-flight incident, the AC should impound the aircraft immediately after landing and contact the controlling C2 agency for further instructions.

**6.42. Wake Turbulence Avoidance.**

6.42.1. Aircrews will comply with wake turbulence avoidance criteria. Acceptance of traffic information, instructions to follow an aircraft, or a visual approach clearance is acknowledgment that the AC will ensure takeoff and landing intervals and accepts responsibility of providing wake turbulence separation. Aircrews will refer to FLIP GP, AFMAN 11-217 Vol 2, *Visual Flight Procedures*, and the *Airman's Information Manual* (AIM) for additional information and wake turbulence avoidance techniques. **Warning:** Wind can affect the path and duration of wake turbulence thereby prolonging the turbulence hazard or placing the turbulence in an unanticipated location. The AC should coordinate with ATC as required when operating in the vicinity of large/heavy aircraft, and is responsible for adjusting aircraft operations and flight path as necessary to preclude serious wake turbulence encounters.

**6.43. Customs, Immigration, and Agriculture Inspections.**

6.43.1. Aircrews will complete customs, agriculture, and public health clearance forms, as required, prior to opening the crew or cargo doors or enplaning and deplaning personnel.

6.43.2. Aircrews will proceed directly from the aircraft to customs, immigration, or agricultural inspection for processing at those stations where federal or local inspections are required. The AC or designated representative completes the necessary forms before reporting to inspectors.

6.43.3. After clearing with border clearance agencies, the AC or designated representative will return to the aircraft for offloading and other post-flight procedures.

6.43.4. A Unites States (US) military aircraft is a sovereign instrument. When cleared to over-fly or land in foreign territory, it is US policy to assert that military aircraft are entitled to the privileges and immunities which customarily are accorded warships. These privileges and immunities, in the absence of stipulations to the contrary, include exemption from duties and taxation; immunity from search, seizure, and inspections (including customs and safety inspections); or other exercise of jurisdiction by the host nation over the aircraft, personnel, equipment, or cargo on board. The AC will not authorize search, seizure, inspection, or similar exercises of jurisdiction enumerated above by foreign authorities except by direction of HQ USAF/A3OFN or the American Embassy in the country concerned.

6.43.5. AC will not permit the inspection of their aircraft by officials of any foreign government. If requested to do so the AC and crew will deny access and seek aid from the senior USAF representative or US Embassy or consulate within the host nation. Inform customs or other officials of the above policy and request that they confirm their request through their own government and with US Department of State representatives. If necessary, the aircrew will seal the aircraft and enter into crew rest, and relay departure intentions, until resolution of the matter by appropriate authority. The fastest means of communication available will be used to inform command and control facilities should this situation occur.

6.43.6. When confronted with a search request by foreign authorities, aircrews should consider the following procedures:

6.43.6.1. In most cases, search attempts may be stopped by a statement of the AC to the foreign officials that the aircraft is a sovereign instrument not subject to search without consent of HQ USAF or the chief of mission in the country concerned. This should be clearly conveyed in a polite manner so as not to offend foreign authorities that may honestly, but mistakenly, believe they have authority to search USAF aircraft.

6.43.6.2. If foreign authorities insist on conducting a search, the AC must negotiate to delay the search until contact is made with HQ USAF/A3OFN or the appropriate US Embassy. The AC should unequivocally state, the aircrew has no authority to consent to the search and that they must relay the foreign request to these agencies for decision. The AC should then notify these agencies of the foreign request by the most expeditious means available. Thereafter, the AC should follow instructions provided by the appropriate US Embassy and HQ USAF.

6.43.6.3. If foreign officials refuse to desist in their search request, the AC should indicate that they would prefer to fly the aircraft elsewhere (provided fuel and mechanical considerations permit a safe departure) and request permission for immediate departure.

6.43.6.4. If permission is refused and the foreign authorities insist on forcing their way on board an aircraft, the AC should state that he protests the course of action being pursued and that the AC intends to notify both HQ USAF and the appropriate American Embassy of the foreign action. The AC should then allow the foreign agents on board the aircraft, without physical resistance, and thereafter report the incident to HQ USAF and appropriate US embassy as soon as possible.

6.43.7. In all instances, specific instructions may be briefed because of sensitive cargo or equipment. These instructions and applicable provisions of classified supplements to the foreign clearance guide should be followed where applicable.

## Chapter 7

## AIRCRAFT SECURITY

**7.1. General.** This chapter provides guidance on aircraft security and preventing and resisting aircraft piracy (hijacking). AFI 31-101, *The Air Force Installation Security Program*, FAA Notice (FAAN) 7110.422, *Aircraft Hijack and Suspicious Inflight Activities - Response and Notification Procedures*, and specific MAJCOM security publications contain additional guidance. Aircrews will not release information concerning hijacking attempts or identify armed aircrew members or missions to the public.

**7.2. Security.** Aircraft security at non-US military installations is the responsibility of the controlling agency and/or the AC

**7.3. Air Force Installation Security Program.** The following security procedures will implement IAW AFI 31-101 for MC-12W aircraft.

7.3.1. The MC-12 is designated Protection Level (PL) 3 when outside the CONUS, Alaska, Guam or Hawaii. The MC-12 is PL 3 when in the CONUS, Alaska, Guam or Hawaii and when in depot maintenance or training status (non-operational). At non-United States military installations, the AC determines the adequacy of local security capabilities to provide aircraft security commensurate with this chapter. If available, use US military or contract personnel to guard the aircraft; otherwise, use guards employed by the host country for flightline/airport area control. If the AC determines security to be inadequate, the aircraft will depart to a station where adequate security is available.

7.3.2. The security force must be made aware of all visits to the aircraft. The security force POC must be identified to the AC.

**7.4. Locking and Sealing.** The aircraft will be locked during a RON on non-secure ramps. The planning agency must coordinate with the execution agency to ensure adequate en route security is available. The AC will receive a threat assessment and en route security capability evaluation briefing for areas of intended operation prior to home station departure and should request updates from en route C2 as required.

7.4.1. Arrival. On arrival, the AC will assess the local situation and take the following actions as required:

7.4.1.1. Area patrol. Request area security patrols from local security forces. If local authorities request payment for this service, Standard Form (SF) 44, *Purchase Order-Invoice Voucher*, will be used.

7.4.1.2. Aircrew surveillance. During short ground times, direct armed crew members to remain with the aircraft and maintain surveillance of aircraft entrances and activities in the aircraft vicinity.

7.4.1.3. Inadequate Security. If, in the opinion of the AC, airfield security is inadequate and the AC determines the safety of the aircraft is in question, the AC may waive the FDP limits and crew rest requirements and depart as soon as possible for a base considered reliable. Movement and intentions will be reported to the controlling agency as soon as practical. If a departure is not possible, the aircrew must secure the aircraft to

the best of their ability. In no case, will the entire crew leave the aircraft unattended. Crew rest requirements will be subordinate to aircraft security when the airframe may be at risk. The AC should rotate a security detail among the crew to provide for both aircraft protection and crew rest until relief is available. Security assistance from the nearest DoD installation, US Embassy, local military or law enforcement agencies will be requested as appropriate.

7.4.2. Normally, non-United States nationals can perform their duties under escort and should not be placed on the Entry Access List (EAL).

7.4.3. Personnel not on the EAL or aircrew orders must be escorted within the area.

7.4.4. In instances of transient ground activity where it is impractical/impossible to leave a crew member with the aircraft and system/information security is in question; consideration should be given to sanitizing available drives before sealing the aircraft. Note that this will hamper the aircraft's ability to accomplish its mission until the drives can be properly reformatted.

**7.5. Detecting Unauthorized Entry.**

7.5.1. When parking on a secure ramp, the aircraft will normally be left unlocked/unsealed to allow ground personnel immediate access. If, in the AC's judgment, the aircraft needs to be locked in order to protect or detect unauthorized entry, then:

7.5.1.1. Use available aircraft ground security locking devices.

7.5.1.2. Secure the doors in a manner that will indicate unauthorized entry.

7.5.1.3. Close and lock the door.

7.5.1.4. Wipe the immediate area around lock and latches clean to aid in investigation of a forced entry.

7.5.1.5. Any unauthorized entry or tampering will be reported to the Air Force Office of Special Investigation (AFOSI), security forces or local authorities, and the C2 agency. Have aircraft thoroughly inspected prior to flight.

7.5.2. Security awareness is crucial to effective mission accomplishment. Aircrews must always remain vigilant to their surroundings, especially at high threat, low security locations. In addition to normal preflight activities, aircrews must inspect areas of the aircraft not covered by normal preflight duties, to include inside inboard main landing gear doors, nose wheel compartment, and the aft avionics bay for unfamiliar devices. Any suspicious items will be reported to host security forces. Aircrews will maintain a heightened security posture throughout all pre-takeoff activities.

**7.6. Preventing and Resisting Hijacking.** Refer to AFI 13-207, *Preventing and Resisting Aircraft Piracy (Hijacking),* for detailed guidance.

7.6.1. The Administrator, FAA, pursuant to Title 49, United States Code, section 44903(e), has exclusive responsibility to direct law enforcement activity in responding to an actual or suspected air piracy (hijacking) situation involving all aircraft (civil and military) in-flight in the US.

7.6.2. Military forces taking action during an aircraft hijacking situation will act under military command within the scope of their duties.

7.6.3. In the event an aircraft involved in an aircraft hijacking situation is carrying documents, equipment, or material that DoD has determined to be highly sensitive, DoD will provide FAA, and where appropriate, the Federal Bureau of Investigation (FBI) with all pertinent information. Where possible, the FAA will consult and cooperate with DoD prior to directing any law enforcement activity.

7.6.4. An aircraft is most vulnerable to hijacking when the aircrew is aboard and the aircraft is operationally ready for flight.

7.6.5. A concerted effort must be made to prevent the hijacking of military or military contract aircraft by detecting potential hijackers before they board the aircraft.

7.6.6. Should preventive efforts fail, any actual attempt to hijack a military aircraft must be resisted in a manner appropriate to the situation.

**7.7. Preventive Measures.** Commanders at all levels must ensure preventive measures are taken to minimize access to the aircraft by potential hijackers. When operating away from home station, the AC will comply with this chapter and FAAN 7110.422.

**7.8. Initial Response.** When an act of air piracy involves an AF installation or aircraft within the US, response will be according to FAAN 7110.422. All attempts to hijack a military aircraft must be resisted.

**7.9. In-Flight Resistance.** After airborne, success in thwarting a hijacking depends on the resourcefulness of the aircrew. Many variables of a hijacking preclude using any specific counter-hijacking procedure. Some key factors should be evaluated before deciding a course of action to be taken, including the nature of the threat, danger to life, or damage to the aircraft in flight, destination indicated by the hijacker, and the presence of sensitive material on board.

**7.10. Communications Between Aircrew and Ground Agencies.** Crews facing a hijacking threat will notify ground agencies in accordance with FIH.

**7.11. Forced Penetration of Unfriendly Airspace.** Aircrews will refer to FIH for international signals for air intercept.

**7.12. Weapons.**

7.12.1. Weapons Issue. Before departing home station, aircrews will obtain weapons, ammunition, box, lock and key. Crew members will be armed according to C2 directives and MAJCOM publications.

7.12.2. Wearing of Weapons. Weapons will be worn in a holster. Weapons will be concealed when directed to prevent identifying armed crew members. Weapons will not be worn off the flight line except to and from the C2, armories, and other facilities associated with aircrew activities. In general, at overseas locations, weapons are not to be brought off the aircraft. In countries where FCG/Status of Forces Agreement (SOFA) authorizes such action, every effort should be made to keep all firearms onboard the aircraft unless appropriately responding to a hostile event or being moved to/from storage at an armory.

**7.13. Force Protection.** Crews must be alert to possibility of terrorist activities at all times. Aircrews will reference Air Force Pamphlet (AFPAM) 10-100, *Airman's Manual* and AFI 10-245, *Air Force Antiterrorism Standards,* for Force Protection measures.

## Chapter 8

## OPERATIONAL REPORTS AND FORMS

**8.1. General.** This chapter provides guidelines for worksheets, reports, and forms associated with MAJCOM operational activities. Aircrews will consult governing instruction or contact wing, unit, or local flight safety officers for assistance with safety forms.

**8.2. AF Form 457, *USAF Hazard Report*.** The AF Form 457 is a tool to notify supervisors and commanders of a hazardous condition that requires prompt corrective action. For hazardous weather, the front side of an AF Form 457 will be completed and sent to the parent wing flying safety office. If addressing a computer flight plan deficiency, a copy of the AF Form 72, *Air Report (AIREP)* will be attached. Aircrews will ensure the parent unit receives it within 5 days of the event. For more information, see AFI 91-202, *The US Air Force Mishap Prevention Program.*

**8.3. AF Form 651, *Hazardous Air Traffic Report (HATR).*** The AF Form 651 is a tool to report near midair collisions and alleged hazardous air traffic conditions. See Attachment 3 of AFI 91-202 for more information concerning the HATR program.

8.3.1. AFI 91-204, *Safety Investigations and Reports*, and AFMAN 91-223, *Aviation Safety Investigations and Reports*, list HATR reportable incidents.

8.3.2. The AC shall report the hazardous condition to the nearest ATC agency (e.g. center, Flight Service Station (FSS), control tower, or aeronautical radio station) as quickly as safety allows. Include the following information in the radio call (as appropriate):

8.3.2.1. Aircraft identification or call sign.

8.3.2.2. Time and place (radial/DME of NAVAID, position relative to the airfield, incident, etc).

8.3.2.3. Altitude or flight level.

8.3.2.4. Description of the other aircraft or vehicle.

8.3.2.5. Advise controlling ATC agency that the AC will file a HATR upon landing.

8.3.3. Deadline to file a HATR is 24 hours after event via any communication mode available. If landing airport has a USAF airfield management function, submit completed AF Form 651 to the airfield management officer for forwarding to wing safety office. If landing airport does not have an airfield management office, notify the safety office of the Air Force base nearest to location where the condition occurred, AC's home base safety office, or as prescribed by overseas MAJCOM. In that case, provide contact sufficient information to prepare AF Form 651.

8.3.4. Aircrews are reminded that properly reported HATRs grant the aircrew immunity from disciplinary action provided:

8.3.4.1. If they were the offending party, their violation was not deliberate.

8.3.4.2. They committed no criminal offense.

8.3.4.3. Their actions did not result in a mishap.

8.3.4.4. They properly reported the incident using procedures above.

**8.4. Report Violations, Unusual Events, or Circumstances.** ACs shall document events that require them to deviate from AFI 11-202V3, (unless waived by appropriate authority) or alleged navigation errors (including over-water position errors over 24 NM, border, or ATC violations).

8.4.1. Deviation(s) will be described in following report format:

8.4.1.1. Facts. Pertinent details of the event shall be reported.

8.4.1.2. Investigation and analysis. Circumstances which required/drove deviation(s) shall be reported.

8.4.1.3. Findings and conclusions.

8.4.1.4. Recommendations to prevent recurrence.

8.4.1.5. Corrective actions taken.

8.4.2. The following attachments will be included with the report:

8.4.2.1. Formal notification of incident.

8.4.2.2. Crewmembers' official statements (if applicable).

8.4.2.3. Other pertinent documents submitted in evidence (logs, charts, etc.).

8.4.3. OG/CC shall send the original investigation report to the appropriate MAJCOM within 45 days of the event/notification.

8.4.4. Operational Reporting (OPREP)-3 reporting procedures contained in AFI 10-206 will be used for navigation errors over 24 NM.

8.4.5. ACs shall expeditiously report unusual events/circumstances that impact their mission to appropriate MAJCOM agencies. Reportable events include, but are not limited to, spectrum interference, interception, engine failure, hostile fire, injury to passenger or aircrew member, etc. This list is not all exhaustive. Most events require C2 agents to forward OPREP reports to higher headquarters. In all cases, pass the "who, what, when, where, why, and how" of the incident to a C2 agency.

8.4.5.1. The Spectrum Interference Resolution Program, covered in AFI 10-707, *Spectrum Interference Resolution Program*, establishes procedures to combat the effect of meaconing, intrusion, jamming, and interference. ACs who encounter electromagnetic interference (EMI) will report the event to the nearest C2 agency as soon as practical.

**8.5. Petroleum, Oil, and Lubricants (POL) - Aviation Fuels Documentation.** This section prescribes aviation POL (AVPOL) procedures that ensure correct documentation, form and invoice processing, and program supervision. Use the Air Card for the purchase of aviation fuel and ancillary ground services at commercial airports (and some military installations) worldwide. The Air Card is authorized for use by all US government aircraft, state, and local law enforcement aircraft, and some foreign government aircraft. All ACs should plan to use the Air Card. In most cases, there will be no changes when refueling at non-Defense Energy Support Center (DESC) contract locations. The Air Card is accepted at approximately 4,800 locations worldwide. A list of all Air Card accepting merchants can be found at **https://www.airseacard.com**. It replaces the SF 44 at locations that accept the Air Card.

8.5.1. Responsibilities. Aircrew and maintenance personnel will be familiar with AVPOL procedures and documentation requirements of this chapter. Improper use of the Air Card could create financial liability for the purchaser.

8.5.2. Refuel/defuel USAF aircraft at DoD locations whenever possible. If DoD service is not available, purchase fuel from other source(s) in the following priority:

8.5.2.1. DESC or Canadian into-plane contracts.

8.5.2.2. Foreign government air forces. **Note:** DoD FLIP en route supplements identify locations with into-plane contracts.

8.5.3. AVPOL Forms Documentation and Procedures.

8.5.3.1. The Defense Department Form (DD) 1898, *Fuel Sale Slip*, is the fuel transaction receipt used for purchases at other DoD locations, including DESC into-plane contract locations. **Note:** If the contractor insists on a unique invoice along with the DD1898, the vendor's invoice will be annotated with "DUPLICATE DD1898 ACCOMPLISHED."

8.5.3.2. The SF 44 may be used to purchase fuel, ground services and/or other authorized products when no Air Card contract is in place.

8.5.3.2.1. The aircrew shall present the SF 44 as the purchase invoice when a fixed base operator (FBO) refuses to accept the Air Card. The aircrew shall complete the SF 44 and attach it to the FBO vendor ticket/invoice when the FBO also declines use of the SF 44 and uses its own invoice/receipt. Fuel purchases shall be documented on a separate SF 44 from ground services and other authorized products since the FBO must invoice DESC for the fuel and the customer for non-fuel product and services.

8.5.3.2.1.1. Copies 1 and 2 of the SF 44 shall be provided to the FBO. Copy 1 of the SF 44 and one copy of the FBO commercial invoice, if applicable, shall be forwarded to the following address by the FBO to bill/invoice DESC: DESC-RRF, Building 1621-K, 2261 Hughes Avenue, Suite 128, Lackland AFB, Texas 78236.

8.5.3.2.1.2. Copy 3 of the SF 44 and one copy of the FBO commercial invoice, if applicable, shall be provided to the aircrew. Aircrews shall present all fuel purchase receipts to the designated aviation squadron Certifying Official and/or Accountable Official upon return to home station to enable timely validation and financial obligation processing into the Fuels Automated System (FAS).

8.5.3.3. Fuel purchases where the FBO requires cash payment. Cash fuel purchases are only authorized when either the DoD 4500.54G, *DoD Foreign Clearance Guide*, requires cash payment or when FBO locations outside the US and US Territories refuse MSC card and/or SF 44 invoicing processes. Aircrews required to pay cash for aviation fuel purchases shall employ the following procedures: **Note:** These procedures do not apply to non-fuel products or services.

8.5.3.3.1. The aircrew shall obtain cash from a local DoD Finance source that is charged to an approved Treasury suspense account prior to home station departure.

8.5.3.3.2. Aircrews shall complete the SF 44 and obtain the FBO fuel vendor annotation in block 11 of the SF 44 to confirm total cash amount and also sign and

date the SF 44 blocks 20 and 21. Aircrew shall return unused cash to their local DoD Finance source upon return to home station. Present the completed SF 44 (for non-fuel charges only) to the appropriate home station administrative personnel for processing. (e.g., Wing Refueling Document Control Officer, Finance Office, etc.)

8.5.3.4. Purchases of ground services and other approved products (not fuel).

8.5.3.4.1. A separate SF 44 will be completed for non-fuel purchases. Provide the FBO copies 1 and 2 of the SF 44. The FBO shall use copy 1 and one copy of the FBO commercial invoice, if applicable, to directly bill/invoice the purchasing organization. Block 9 of the SF 44 shall reflect the organization name and address of the finance office responsible for payment to the FBO. The purchasing organization shall make payment to the FBO upon receipt of the invoice from the FBO.

8.5.3.4.2. If the vendor presents their own form for signature and accepts the SF 44, the statement "SF 44 Executed" will be written on the vendor's form.

8.5.3.4.3. Two copies of the SF 44 will be turned in to the operations officer at home station.

8.5.3.5. DD 1896 is the aircraft fuel and oil charge card normally used at military locations for refueling transactions.

8.5.3.6. The aircraft identaplate will be presented for purchases at Shell International Trading Company (SITCO) agreement locations. Make certain the invoice includes date of transaction, grade of product, quantity issued/defueled, unit of measure, and signature of Air Force member who accepted product. If vendor also requires completed SF 44 the statement, "AF FORMS EXECUTED" will be written on vendor's invoice.

8.5.3.7. Purchasing Aviation Fuel in Canada. The DoD and Canadian Department of National Defense have signed a memorandum of understanding allowing DoD aircraft to use the DoD Fuel Identaplate when refueling at Canadian airfields with a Canadian National Defense Contract (CNDC). The MSC card will be used for fuel purchases at Canadian airports without a CNDC, and for ground handling services at all Canadian airports.

8.5.3.8. Host country forms will be used to affect purchases at foreign military airfields, including "replacement-in-kind" locations. Information from aircraft identaplate will be hand scribed on the local form.

8.5.3.9. For off-station missions, the AC will complete or verify accuracy of the SF 44, Aircraft Flight Service Log 350ISR-F-001, DD1898, and associated fuels receipts. The AC will transmit required information to home station via phone, fax, or message if mission causes him/her to be off-station past the last day of the month.

## Chapter 9

## TRAINING POLICY

**9.1. Simulated Emergency Flight Procedures.** Simulated emergency flight procedures will be conducted according to AFI 11-202,V3, and this instruction. A realistic approach will be used; emergencies will not be compounded. The AC or IP will alert crew members prior to initiating simulated emergency flight procedures.

9.1.1. If an actual emergency arises, all simulated emergency flight procedures training and flight maneuvers practice will be terminated. Radar flight following will be used to the maximum possible. Training will be resumed only when the AC determines it is safe.

9.1.2. Simulated emergencies will be conducted only during training and evaluation or currency flights when an instructor or flight examiner pilot is occupying one of the pilot seats. Instructor or flight examiner pilot candidates who occupy a pilot seat and are under the direct supervision of a flight examiner pilot not in a pilot seat may conduct simulated emergencies during initial and requalification upgrade evaluations.

9.1.3. Emergency procedures that degrade flight control capabilities will not be practiced.

**9.2. Touch-and-Go Landings.** Touch-and-go landings will only be accomplished under the direct supervision of a current and qualified IP or touch-and-go certified aircraft commander.

9.2.1. The following apply to touch-and-go landings:

9.2.1.1. Reported ceiling must be at or above 300 feet and visibility must be at or above 3/4 mile (RVR 40).

9.2.1.2. Runway RCR must be 12 or higher. If runway RCR is not available, braking action must be reported as "fair" or better.

9.2.1.3. MEP and civilian employees under direct contract to the DoD or engaged in official direct mission support activities are considered mission essential and may be on board when touch-and-go or stop-and-go landings are performed.

**9.3. Engine-Out Limitations.** Refer to AFI 11-202V3, paragraph 5.17. Simulated engine failure is not authorized at less than engine-out minimum control speed (Vmca) or when an actual emergency condition exists. Simulated engine failure will not be initiated below 500 feet AGL. Simulated engine-out power will be IAW POH procedures for Simulating One-Engine-Inoperative (zero thrust). **Warning:** Performing simulated engine-out training below One-Engine Inoperative Speed (Vsse) may provide more realistic training on aircraft handling and performance characteristics. However, Vmca is below POH recommended intentional Vsse, and MC-12 ISR Supplement does not have a correction factor for Vmca. In addition, POH procedures for Simulating One-Engine-Inoperative assume training is conducted at Vsse. Instructors and Evaluators will exercise extreme caution and prebrief additional risks and mitigation measures if performing simulated single engine failure below Vsse. For training on aircraft handling characteristic at or near Vmca, crews should perform the Practice Demonstration of Vmca procedure in the BE350 POH. **Warning:** Performing simulated engine-out training at zero torque vs. zero thrust implies a compound emergency combining loss of thrust with malfunction of the autofeather system. Aircrews will reference paragraph 9.1 for

prohibitions regarding compound emergencies. In addition, POH performance data does not have a correction for the Vmca increase due to the increased drag and yaw caused by an engine operating at zero torque

9.3.1. Normally, turns should be planned to be in the direction of the good engine. Turns into simulated failed or failed engine should be minimized. Turns into simulated failed or failed engine are permissible but may require increased maneuvering speed and require a higher degree of pilot skill.

**9.4. Training Maneuver Restrictions.**

**Table 9.1. lists the training maneuver restrictions that apply on all training flights.**

**Table 9.1. Training Maneuver Restrictions.**

| ITEM | A<br>**Maneuver** | B<br>**Restriction** | C<br>**Other Restriction** |
|---|---|---|---|
| 1 | Actual engine shutdown | 5,000 feet AGL minimum | Perform only for familiarization during initial/ upgrade syllabus training (actual or training) |
| 2 | Simulated single engine go-around | Not lower than 300 AGL | |
| 3 | Approach to stalls/slow flight | 5,000 feet AGL minimum | Qualification/upgrade syllabus training flights only |

**9.5. Prohibited In-Flight Maneuvers.**

9.5.1. Simulated engine-out takeoffs.

9.5.2. Full stalls.

9.5.3. Approach to stalls, slow flight, and flight on the backside of the power curve (except qualification/upgrade syllabus training flights).

9.5.4. Dutch rolls.

9.5.5. Jammed stabilizer approaches and landings.

9.5.6. Aborted takeoffs.

9.5.7. Unusual attitudes

9.5.8. Emergency descents.

9.5.9. Runaway pitch or roll trim and yaw demonstrations.

9.5.10. Simulated dual-engine failures.

9.5.11. Actual engine shutdowns (exceptions noted in **Table 9.1**.).

**9.6. Instructor Pilot Briefing.** Before all initial, upgrade, or re-currency training missions, the instructor will brief the following. For currency training with experienced pilots, instructor may omit **9.6.6** through **9.6.8**.

9.6.1. Requirements and objectives for each student and/or pilot regaining currency.

9.6.2. Planned training area and seat changes.

9.6.3. Flight manual procedures.

9.6.4. The importance of smoothly advancing power to avoid asymmetric thrust.

9.6.5. Engine failure, including recognition and corrective action.

9.6.6. Proper use of ailerons, flaps, trim, and rudder to maintain coordinated flight.

9.6.7. AFI 11-2MC-12WV2 flight parameters including airspeed, descent point, descent gradient, threshold crossing height, and touchdown zone.

9.6.8. Flight manual procedures and considerations for proper use of brakes and reverse thrust for slowing during landing rollout.

**9.7. Debriefing.** Overall training performed will be reviewed and evaluated. Each student or aircrew member should understand thoroughly what training has been accomplished. The crew will ensure all training has been accomplished and documented, positive actions, areas for improvement, and action items prior to the subsequent training mission (MQT/upgrade only).

**9.8. Simulated Instrument Flight.** Artificial vision restricting devices shall not be used for any phase of flight. Simulated instrument flight may be flown and logged without the use of a vision-restricting device.

## Chapter 10

## LOCAL OPERATING PROCEDURES

**10.1. General.** This chapter is for unit local operating procedures. Procedures herein will not be less restrictive than those contained elsewhere in this regulation, nor will this chapter be a single-source document for procedures contained in other directives or regulations. Unnecessary repetition of guidance provided in other established directives will be avoided; however, reference to those directives is acceptable when it serves to facilitate location of information necessary for local operating procedures.

**10.2. Review.** A copy of this chapter will be forwarded to ACC/A3CR for review, comments, and required changes as appropriate. This procedure need not delay distribution.

**10.3. Format.** Organize the local chapter in the following format to include, but not limited to, the following.

10.3.1. Introduction.

10.3.2. General Policy.

10.3.3. Mission Planning.

10.3.4. Ground Operations.

10.3.5. Flying Operations.

10.3.6. Local Airspace Procedures.

10.3.7. Weapons Employment.

10.3.8. Abnormal Procedures.

10.3.9. Attachments (Illustrations).

**10.4. Content.** The local chapter will include procedures for the following, if applicable.

10.4.1. Local Area Procedures.

10.4.1.1. ATC procedures.

10.4.1.2. Traffic pattern and airfield procedures.

10.4.1.3. Local gunnery and range procedures/restrictions.

10.4.2. Controlled Emergency Landing Areas/Procedures.

10.4.2.1. Hung Ordnance/Weapons Malfunction Recovery

10.4.3. Local Weather Procedures.

10.4.4. Approved Alternate Missions.

10.4.5. Unit Standards.

**10.5. Information Collection, Records, and Forms.**

10.5.1. Information Collections. No information collections are created by this publication.

## Chapter 11

## AIRCREW OPERATIONS IN CHEMICAL, BIOLOGICAL, RADIOLOGICAL, AND NUCLEAR (CBRN) THREAT ENVIRONMENT

**11.1. Overview.** The MC-12W aircraft will not fly in a CBRN environment. The MC-12W aircraft is not modified/equipped to support the wear of the Aircrew Chemical Defense Ensemble (ACDE). The threat from a nuclear device is from the initial blast, heat, and radiation. The Electromagnetic Pulse (EMP) from a nuclear detonation can damage electronic equipment. Therefore, crewmembers' best protection is a combination of shielding, distance from the blast, and limited time of exposure. Aircrews should monitor command and control channels to ensure they receive the latest information concerning the destination's alert condition. Diversion of aircraft to alternate "clean" locations could be required. Contamination avoidance is the most important passive defense measure. Techniques for contamination avoidance include: inflight diversion, survival launch, and minimizing exposure to contaminated cargo, aerospace ground equipment (AGE), and material handling equipment (MHE).

# Chapter 12

## NAVIGATION PROCEDURES

**12.1. Mission Planning.** A pilot will cross-check the computer flight plan planned route against the route of flight entered on the DD Form 175, *Military Flight Plan* or DD Form 1801, *DoD International Flight Plan*, and the approved diplomatic clearance.

**12.2. Flight Progress.** The following procedures for flight progress will be used:

12.2.1. Prior to oceanic flights, plot the oceanic portion on an appropriate chart and compute ETP returns due to a medical emergency (2 engine at cruise altitude), loss of pressurization (2 engine at 10,000 feet), and loss of one engine (one engine at drift down altitude). **Note:** The differences in the two-engine normal and single-engine Long Range Cruise (LRC) profiles are significant. Therefore, special attention during mission planning should be given to determining turnaround point if required due to engine loss.

**12.3. Communications Navigation System/Air Traffic Management Capability.**

12.3.1. Airspace and associated navigational equipment capability are continually evolving. Pilots must maintain a thorough knowledge of current FLIP requirements/policies. Aircrews may reference **Table 12.1** for MC-12W CNS/ATM approved operations.

12.3.2. Reduced Vertical Separation Minimum (RVSM) Airspace. Airspace where RVSM is applied is considered special qualification airspace (FL 290-FL 410). Both the operator and the aircraft must be approved for operations in these areas. Pilots will immediately notify ATC if any of the required equipment fails after entry into RVSM airspace. Aircrews will refer to FLIP GP and applicable AP for theater unique information. The MC-12W is certified/approved for flight in RVSM airspace.

12.3.3. Required Navigation Performance (RNP) Airspace. The MC-12W is certified for RNP Airspace, see Table 12.1. Airspace where RNP is applied is considered special qualification airspace. RNP airspace is being incorporated around the world to increase air traffic capacity by decreasing separation requirements between routes. Pilots will immediately notify ATC if any of the required equipment fails after entry into RNP airspace and coordinate a plan of action. Malfunctions or failures of RNP required equipment will be documented in the aircraft forms.

12.3.4. RNP-10. Navigation accuracy is within 10 NM of track 95% of the time. Remote/Oceanic operation in RNP-10 airspace is authorized provided that all required equipment is operational and adequate GPS coverage is available. The GPS coverage must be checked using the Fault Detection and Exclusion (FDE) software prior to departure. If the FDE software verifies satellite availability and the predicted Horizontal Integrity Limit (HIL) is within tolerances for the airspace (e.g. less than 10 NM for RNP-10 airspace), then the flight is authorized. If sufficient satellite coverage for FDE is not available or the HIL is greater than airspace tolerances, then the flight is not authorized.

12.3.5. Basic Area Navigation (BRNAV) / RNP-5 Airspace. Airspace where BRNAV is applied is considered special qualification airspace. BRNAV/RNP-5 meets a track keeping accuracy equal or better than +/- 5 NM for 95% of the flight time. Minimum equipment to operate in BRNAV/RNP-5 airspace is an approved GPS with RAIM provided that the system

is monitored by the flight crew and that in the event of a system failure, the aircraft retains the capability to navigate relative to ground based NAVAIDs (i.e. VOR, DME, and NDB). Pilots will immediately notify ATC if any of the required equipment fails after entry into BRNAV/RNP-5 airspace and coordinate a plan of action; however, with sufficient NAVAID reception, the MC-12W may still operate in the BRNAV airspace. Malfunctions or failures of RNP required equipment will be documented in the aircraft forms.

12.3.6. See **Table 12.1** below for complete listing of MC-12W CNS/ATM approved operations.

**Table 12.1. MC-12W CNS/ATM Operational Approvals (EFIS/Proline 21 aircraft) Airspace/Equipment.**

| Airspace/Equipment Type MC-12W | Certified | Operational Approval | Pilot Training Required | Notes |
|---|---|---|---|---|
| Frequency Modulation (FM) Immunity (FMI) | Yes | Yes | No | |
| 8.33 Radios | Yes | Yes | No | |
| Mode S | Yes | Yes | Yes | Training incorporated into initial qualification |
| TCAS Version 7 | Yes | Yes | Yes | Training incorporated into initial qualification |
| RNAV/GPS Approaches | Yes | Yes | Yes | Training incorporated into initial qualification |
| Lateral Navigation (LNAV) / Vertical Navigation (VNAV) | Yes | Yes | Yes | Training incorporated into RNAV/ GPS Approach training. |
| RVSM | Yes | Yes | Yes | Training incorporated into initial qualification/mission qualification |
| RNAV/GPS En route | Yes | Yes | Yes | Training incorporated into initial qualification |
| RNP 10 | Yes | Yes | No | |
| RNP - 5 | Yes | Yes | No | |
| BRNAV | Yes | Yes | No | |
| MNPS | Yes | Yes | No | |
| Remote Oceanic | Yes | Yes | No | Operations on Special Routes are approved (ex. Blue Spruce). |

## Chapter 13

## AIRCREW MAINTENANCE SUPPORT PROCEDURES

**13.1. General.** This chapter contains aircrew procedures not contained in the flight manual, other portions of this AFI, or other publications.

**13.2. Responsibilities.** Aircrews may assist the normal maintenance function when critical contingency tasking dictates their use, provided this action does not impact crew duty and crew rest limits specified in Chapter 3 of this AFI.

**13.3. Aircraft Servicing.** Aircrews are not normally required to service the aircraft; however, they are qualified and authorized to perform those aircrew maintenance support tasks found in this volume. The aircrew performs these tasks only in the absence of qualified maintenance personnel and is designed for support of the aircraft and its mission while away from home station. Without exception, the applicable checklists will be used during all refueling and de-fueling operations.

13.3.1. Aircraft Refueling. Aircrew members qualified in ground refueling may perform refueling duties. Aircrews will only refuel in cases when maintenance support is not readily available and the mission would be delayed.

13.3.2. Concurrent servicing is not authorized for MC-12W aircraft.

13.3.3. The dash one preflight inspection will remain valid until either:

13.3.3.1. 72 hours from the time of inspection, or

13.3.3.2. Another maintenance preflight inspection is performed.

13.3.4. Fire Protection and Crash Rescue. A fire bottle, if available, should be positioned near the front of the aircraft prior to starting engines.

## Chapter 14

## FUEL PLANNING

**14.1. General.** This chapter provides general MC-12W fuel planning considerations and procedures.

**14.2. Fuel Conservation.** Aircrews will not carry extra fuel for convenience. Conservation of fuel requires everyone's active participation. The basic rule is that it costs fuel to carry fuel. Carrying extra fuel results in:

14.2.1. Increased takeoff and climb fuel, and

14.2.2. Lower cruise ceiling with a resultant higher fuel burn. As a rule of thumb, fuel burn is 3% of the extra fuel carried per hour.

**14.3. Fuel Planning/Management.** IAW AFI 11-202V3 and the following.

14.3.1. Required ramp fuel will consist of all fuel required for engine start, taxi, takeoff, climb, cruise, alternate/missed approach (if required), descent, approach, transition, landing, and fuel reserve (holding fuel). The fuel load will be planned using computer flight plan or AF Form 70, *Flight Plan*, **Table 14.1**., and the flight manual (fuel plan not required on local missions remaining within 200 NM).

14.3.2. Alternate fuel is the fuel for flight from intended destination to alternate aerodrome at optimum altitude and normal cruise speed. Aircrews will compute fuel, time, and altitude from King Air 350 POH with ISR Modification Supplement. When holding is required or in lieu of an alternate at a remote or island destination, compute holding for 1 + 15 hours using planned destination gross weight at FL 200. This provides 30 minutes holding fuel in addition to the 45 minute reserve requirement. A remote or island destination is defined as any aerodrome, which, due to its unique geographic location, offers no suitable alternate (civil or military). The forecast weather at the remote or island destination must meet the criteria listed in **Chapter 6**. **Note:** Additional/contingency fuel may be added to allow crews flexibility when dealing with unplanned contingencies (e.g. weather avoidance, ATC delays, etc), single runway operations, etc.

**Table 14.1. Fuel Planning Chart I.**

| | A | B |
|---|---|---|
| | Fuel Load Component | Fuel Requirement |
| 1 | Start, taxi, takeoff | 100 pounds |
| 2 | En route (note 1) | Fuel for planned climb and cruise to overhead destination at cruise altitude or initial approach fix altitude. |
| 3 | En route reserve (Class II route) (note | Fuel for 10 percent of flight time over Class II route (see note 4) or route segments not to exceed 1 hour at normal |

| | | |
|---|---|---|
| | 4) | cruise. |
| 4 | Alternate | Fuel from overhead destination to the alternate at normal speed and altitude, **or** optimum performance criteria. |
| 5 | Alternate with VIS only criteria | Fuel for descent, approach, and missed approach; use 200lbs + fuel from destination to alternate using climb and normal cruise charts. |
| 6 | Holding (note 3) | 0+45 fuel using holding charts at 10,000 feet. When holding in lieu of alternate is required (paragraph **6.19.**) or when the alternate is located in Alaska or at latitudes greater than 59Deg N/S, use 1+15 holding fuel computed at 20,000 feet. |
| 7 | Approach and landing | 150 pounds |
| 8 | Known holding delays | Fuel for planned holding when delays are anticipated. |
| **Warning:** Table 14.1 provides planning estimates only. Aircraft Commanders must consistently evaluate their fuel state and aircraft performance during flight to confirm/ensure validity of their fuel plan given atmospheric conditions and prolonged engine performance in austere environments. | | |
| **Notes.**<br>1. All planned off-course maneuvering for departure or en route deviations will be included.<br>2. When two alternates are required, fuel should be planned to the most distant alternate.<br>3. Fuel required over destination or alternate is fuel for holding plus approach and landing or 550 pounds, whichever is greater.<br>4. Class II route is any en route operation that takes place outside the operational service volumes of International Civil Aviation Organization (ICAO) standard airway. Refer to FAA-H-8261-1A, *Instrument Procedures Handbook.* | | |

14.3.3. Normal recovery fuel is 550 pounds. Crews will plan to arrive at initial or the Final Approach Fix for the final destination with normal recovery fuel.

14.3.4. Minimum fuel is 400 pounds. Crews will declare “minimum fuel” whenever it is determined that they will land with less than 400 pounds of fuel.

14.3.5. Emergency fuel is 300 pounds. Crews will declare an emergency whenever it is determined that they will land with 300 pounds of fuel or less.

14.3.6. Fuel Computations for Class II Routing. When flying along a Class II route, crews should ensure they have enough fuel to complete the flight from the ETP. Crews will consider worst case recovery with one-engine inoperative or two-engine unpressurized.

14.3.7. Joker/Bingo Fuel. Calculate Bingo Fuel as defined in AFI 11-214.

## Chapter 15

## AIR-TO-AIR OPERATIONS

**15.1. References.** AFI 11-214 contains air-to-air procedures applicable to all aircraft. This chapter specifies additional procedures or restrictions which are applicable to MC-12W operations.

**15.2. Coordination.** A coordination brief between all involved players shall include the following: altitude deconfliction, emergency mission/lost link explanation and deconfliction, and AFI 11-214 Air-to-Air Training Rules.

**15.3. Maneuvering Limitations.** Minimum airspeed during maneuvering is IAW King Air 350 POH with ISR Modification Supplement.

## Chapter 16

## MISSION EMPLOYMENT

**16.1. General.** Units will develop a tailored tactics training program covering threats crews are exposed to on operational missions as well as threats that may be encountered if executing a war-time tasking.

**16.2. Tactics Ground Training Program.** The tactics training program is the responsibility of the unit commander and is run by the unit's MC-12W Tactics Program Manager.

**16.3. Unit Tactics Program Manager.** The unit tactics program manager is responsible for the development, maintenance, and currency of the instructional materials used in the tactical training of crews. The program manager ensures the tactics training syllabus is comprehensive and meets the unit commander's training objectives and will ensure timely dissemination of tactical and intelligence information pertinent to unit aircrew members.

**16.4. Tactical Airland Operations.**

16.4.1. Scope. The tactics flight training program is designed to provide MC-12W crewmembers with the necessary skills to confidently and successfully survive operating within a low/medium-threat environment. In all cases, the AC shall coordinate planned tactical maneuvers with ATC. Tactical maneuvers at uncontrolled fields will not be flown unless operational or training needs dictate.

16.4.2. Objectives. Flight training is the final phase of the tactics program. Its goal is to provide application of the tactics training concepts. All flight maneuvers will be accomplished with strict adherence to aircraft limitations and parameters prescribed by AFI 11-2MC-12WV1, AFI 11-2MC-12WV2, and this publication. For expanded discussions on tactics and techniques, crews will reference MC-12W Tactics Bulletin and/or AF Tactics, Techniques, and Procedures (AFTTP) series publications.

16.4.3. Tactical Arrivals. Tactical arrivals are restricted to day VMC only. **Exception:** Pilots certified for NVG tactical arrivals may perform tactical arrivals in night VMC. **Note:** The normal VFR pattern is not considered a tactical approach.

16.4.3.1. The objective of a tactical approach is to effectively transition from tactical en route parameters to a predictable and repeatable final approach. The last ½ mile of every approach should be the same, whether originating with a tactical arrival, instrument procedure, or visual approach. If it is determined that a tactical approach is required, the crew must conduct a thorough brief to include visual references for transition to 1/2 mile 'standard' final, as well as a go-around point based on required landing distance and run available. This brief will be accomplished prior to beginning descent on the tactical approach.

16.4.3.2. Random Steep Approach

16.4.3.2.1. Use minimum bank required. Plan the maneuver not to exceed 45 degrees bank.

16.4.3.2.2. Maximum speed is per POH limits or local directives,

16.4.3.2.3. Fly toward airfield at 5,000 feet AGL or as directed.

16.4.3.2.4. Arrive overhead airfield at no greater than maximum speed.

16.4.3.2.5. Overhead field, reduce power and configure for landing as airspeed allows.

16.4.3.2.6. Visualize desired/intended final approach corridor. Begin spiraling descent. Adjust descent gradient to arrive at base turn 1,000' AGL and no less than 140 KIAS. Don't exceed 16 degrees nose low.

16.4.3.2.7. Transition to normal approach and landing procedures no later than ½ mile final. Do not slow to less than circling airspeed until established on final. Do not descend below 300 feet AGL until established on glide path within 1 mile of the runway threshold. **Warning:** Crews must remain vigilant and guard against spatial disorientation and/or loss of situational awareness when employing significant/prolonged bank or pitch angles while on NVGs. **Warning:** Tactical threats are only one part of crews' ORM analysis. Crews must remain vigilant for manned and unmanned aircraft in the ATC pattern. Crews should anticipate flowing into the normal pattern, and remember that ATC and others in the pattern may be looking for them at standard IFR altitudes during position reporting.

16.4.3.3. Curvilinear Approach. A curvilinear approach is a curving visual approach flown from any position other than a normal straight-in or downwind. Altitude, configuration and sequence of events will vary. However, in all cases, crews will plan descent and flight path to arrive at a 1/2-mile final on a normal glide path with the aircraft configured for landing.

16.4.3.4. Random Shallow Approach. SQ/CCs may certify specially trained and certified pilots to conduct random shallow approaches. Certification for random shallow approaches is a Letter -of-Xs special certification.

16.4.3.4.1. Descend from cruise altitude to the terminal area altitude while in a low-threat area. Plan to be at the highest altitude the threat will allow, at the maximum continuous power setting, in a clean configuration when entering the terminal threat area. For training events, minimum altitude will be circling minimums or MSA, whichever is higher.

16.4.3.4.2. Maneuver the aircraft to cross and remain within the secure perimeter of the airfield.

16.4.3.4.3. Commence slowdown by placing the power levels to Flight Idle.

16.4.3.4.4. Configure the aircraft for landing as soon as the airspeed will allow using maneuver, idle power, and configuration to help slow the aircraft to final approach speed. Do not slow to less than circling airspeed until established on final.

16.4.3.4.5. Maneuver the aircraft to transition to normal approach and landing procedures no later than ½ mile final. Do not descend below 300 feet AGL until established on glidepath within 1 mile of the runway threshold.

16.4.4. Tactical Departures. Tactical departures are restricted to VMC to allow visual terrain clearance up to MSA. **Exception:** The Straight-Ahead Steep Tactical Departure may be

performed in night VMC aided or unaided. **Exception:** Pilots certified for NVG tactical departures may perform NVG tactical departures in night VMC.

16.4.4.1. Straight-Ahead Steep Tactical Departure.

16.4.4.1.1. Maximum takeoff power set prior to brake release.

16.4.4.1.2. Accomplish normal rotation and lift-off.

16.4.4.1.3. Retract gear and flaps as soon as flap retraction speeds allow.

16.4.4.1.4. Climb out at two-engine best rate of climb (Vy) or if obstacles are a factor at two-engine best climb (Vx) not to exceed 20 degrees pitch.

16.4.4.1.5. When above threat altitude, resume normal climb procedures.

16.4.4.2. Spiral-Up (Random Steep) Departure.

16.4.4.2.1. Maximum bank angle of 45 degrees.

16.4.4.2.2. Maximum takeoff power set prior to brake release.

16.4.4.2.3. Accomplish normal rotation and lift-off.

16.4.4.2.4. Retract gear and flaps as soon as flap retraction speeds allow.

16.4.4.2.5. Climb out at Vy or if obstacles are a factor at Vx not to exceed 20 degrees pitch.

16.4.4.2.6. Passing 400 feet AGL, initiate spiral climb to remain within protected airspace until above threat altitude.

16.4.4.2.7. When above the threat altitude, resume normal climb procedures.

16.4.4.3. Low departure.

16.4.4.3.1. Maximum bank angle of 30 degrees.

16.4.4.3.2. Maximum takeoff power set prior to brake release.

16.4.4.3.3. Use the entire runway available in order to depart the secure perimeter of the airfield at the highest possible speed and altitude the threat will allow. Do not "hold" the aircraft on the runway to gain additional speed.

16.4.4.3.4. Retract gear and flaps as soon as flap retraction speeds allow.

16.4.4.3.5. Once clear of the threat, immediately climb to cruise altitude using normal procedures. **Warning:** ACs must ensure positive terrain clearance for the departure and climb out flight paths. Execute the low departure no lower than MSA, and at the highest altitude the threat will allow.

16.4.5. Defensive maneuvers. SOPs/Tactics, Techniques, and Procedures (TTPs) for defensive maneuvers are maintained in the MC-12W Tactics Bulletin pending publication of AFTTP series.

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DCS, Operations, Plans and Requirements

## Attachment 1

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***Abbreviations and Acronyms***

**AC**—Aircraft Commander

**ACC**—Air Combat Command

**ACCSUP**—ACC Supplement

**ACDE**—Aircrew Chemical Defense Ensemble

**ACF**—Acceptance Check Flight

**ACFP**—Advanced Computer Flight Plan

**ACO**—Air Control Order

**ADI**—Attitude Director Indicator

**AEO**—All Engines Operating

**AF**—Air Force

**AFE**—Aircrew Flight Equipment

**AFFSA**—Air Force Flight Standards Agency

**AFH**—Air Force Handbook

**AFI**—Air Force Instruction

**AFMAN**—Air Force Manual

**AFOSI**—Air Force Office of Special Investigations

**AFPAM**—Air Force Pamphlet

**AFPD**—Air Force Policy Directive

**AFRC**—Air Force Reserve Command

**AFSSI**—Air Force System Security Instruction

**AFTO**—Air Force Technical Order

**AFTTP**—Air Force Tactics, Techniques, and Procedures

**AFWA**—Air Force Weather Agency

**AGE**—Aerospace Ground Equipment

**AGL**—Above Ground Level

**AIM**—Airman's Information Manual

**AIREP**—Air Report

**ALS**—Approach Lighting System

**ANG**—Air National Guard

**AP**—Area Planning

**ARMS**—Aviation Resource Management System

**ARTCC**—Air Route Traffic Control Center

**ATC**—Air Traffic Control

**ATIS**—Automatic Terminal Information Service

**ATM**—Air Traffic Management

**AWOS**—Automated Weather Observation System

**AVPOL**—Aviation Petroleum, Oil, and Lubricants

**BRNAV**—Basic Area Navigation

**C2**—Command and Control

**CAT I**—Category I Approach

**CB**—Circuit Breaker

**CBRN**—Chemical, Biological, Radiological, and Nuclear

**CDI**—Course Deviation Indicator

**CFP**—Computer Flight Plan

**CFR**—Code of Federal Regulations

**CIK**—Crypto-ignition Key

**CIRVIS**—Communications Instructions for Reporting Vital Intelligence Sightings

**CLS**—Contract Logistics Support

**CNDC**—Canadian National Defense Contract

**CNS**—Communication-Navigation System

**CO**—Cryptologic Operator

**COMAFFOR**—Commander of Air Force Forces

**COMSEC**—Communications Security

**CONUS**—Contiguous United States or Continental United States

**CP**—Copilot

**CRM**—Crew Resource Management

**CVR**—Cockpit Voice Recorder

**DA**—Decision Altitude

**DCGS**—Distributed Common Ground System

**DD**—Defense Department (Form)

**DESC**—Defense Energy Support Center

**DH**—Decision Height

**DME**—Distance Measuring Equipment

**DoD**—Department of Defense

**DRU**—Direct Reporting Unit

**DTD**—Data Transfer Device

**DV**—Distinguished Visitor

**EAC**—Experienced Aircraft Commander

**EAL**—Entry Access List

**EFIS**—Electronic Flight Information System

**EGPWS**—Enhanced Ground Proximity Warning System

**EMI**—Electromagnetic Interference

**EMP**—Electromagnetic Pulse

**EP**—Evaluator Pilot

**EPOS**—Emergency Passenger Oxygen System

**ESA**—Emergency Safe Altitude

**ETA**—Estimated Time of Arrival

**ETD**—Estimated Time of Departure

**ETIC**—Estimated Time in Commission

**ETP**—Equal Time Point

**FAA**—Federal Aeronautical Administration

**FAAN**—FAA Notice

**FAF**—Final Approach Fix

**FAR**—Federal Aviation Regulation

**FAS**—Fuels Automated System

**FBI**—Federal Bureau of Investigation

**FBO**—Fixed Base Operations

**FCB**—Flight Crew Bulletin

**FCC**—Federal Communications Commission

**FCF**—Functional Check Flight

**FCG**—Foreign Clearance Guide

**FCIF**—Flight Crew Information File

**FDE**—Fault Detection and Exclusion

**FDP**—Flight Duty Period

**FENCE**—Fire Control, Emissions, Navigation, Communications, Emergency (In-flight Check)

**FIH**—Flight Information Handbook

**FL**—Flight Level

**FLIP**—Flight Information Publication

**FM**—Frequency Modulation

**FMI**—Frequency Modulation Immunity

**FMP**—Flight Manuals Program

**FMP**—Wing Commander

**FMS**—Flight Management System

**FOA**—Field Operating Agency

**FOD**—Foreign Object Damage

**FOL**—Forward Operating Location

**FSS**—Flight Service Station

**GP**—General Planning

**GPS**—Global Positioning System

**HAA**—Height Above Aerodrome

**HAT**—Height Above Touchdown

**HATR**—Hazardous Air Traffic Report

**HF**—High Frequency

**HIL**—Horizontal Integrity Limit

**HQ**—Headquarters

**IAW**—In Accordance With

**ICAO**—International Civil Aviation Organization

**IFF**—Identification Friend or Foe

**IFR**—Instrument Flight Rules

**ILS**—Instrument Landing System

**IMC**—Instrument Meteorological Condition

**IMT**—Information Management Tool

**Intel**—Intelligence

**IP**—Instructor Pilot

**IQT**—Initial Qualification Training

**IRC**—Instrument Refresher Course

**ISOPREP**—Isolated Personnel Report

**ISREC**—ISR Exploitation Cell

**ISR**—Intelligence, Surveillance, and Reconnaissance

**JPRC**—Joint Personnel Recovery Center

**KIAS**—Knots Indicated Airspeed

**KIO**—Knock It Off

**LNAV**—Lateral Navigation

**LPU**—Life Preserver Unit

**LRC**—Long Range Cruise

**LZCO**—Landing Zone Control Officer

**LZ**—Landing Zone

**LZSO**—Landing Zone Safety Officer

**MAJCOM**—Major Command

**MAP**—Missed Approach Point

**MC**—Mission Contributing

**MDA**—Minimum Descent Altitude

**MDS**—Mission Design Series (e.g., MC-12W)

**MEA**—Minimum Enroute Altitude

**MEL**—Minimum Equipment List

**ME**—Mission Essential

**MEP**—Mission Essential Personnel

**MHE**—Material Handling Equipment

**MISREP**—Mission Report

**MNPS**—Minimum Navigation Performance Specification

**MOB**—Main Operating Base

**MQT**—Mission Qualification Training

**MSA**—Minimum Safe Altitude

**MSC**—Multi Service Corporation

**MSL**—Mean Sea Level

**NACO**—National Aeronautical Charting Office

**NAF**—Numbered Air Force

**NAVAID**—Navigational Aid

**NDB**—Non Directional Beacon

**NGA**—National Geospatial Agency

**NGB**—National Guard Bureau

**NM**—Nautical Mile

**NMR**—Non-Mission Ready

**NORAD**—North Atlantic Aerospace Defense Command

**NOTAM**—Notice to Airmen

**NVG**—Night Vision Goggles

**OAT**—Outside Air Temperature

**OCONUS**—Outside the Contiguous United States or Outside the Continental United States

**OEI**—One Engine Inoperative

**OG/CC**—Operations Group Commander

**OGV**—Operations Group Stan/Eval

**OI**—Open Item

**OPCON**—Operational Control

**OPORD**—Operations Order

**OPREP**—Operations Report

**OPR**—Office of Primary Responsibility

**ORM**—Operational Risk Management

**OROCA**—Off-Route Obstruction Clearance Altitude

**OSC**—On Scene Commander

**OST**—Off-Station Trainer

**OWS**—Operational Weather Squadron

**PAPI**—Precision Approach Path Indicator

**PAR**—Precision Approach Radar

**PFD**—Personal Flotation Device

**PF**—Pilot Flying

**PFPS**—Portable Flight Planning Software

**PL**—Protection Level

**PMCR**—Post Mission Crew Rest

**PNF**—Pilot Not Flying

**POC**—Point of Contact

**POH**—Pilot Operation Handbook

**POL**—Petroleum, Oil, and Lubricants

**PPR**—Prior Permission Required

**RAIM**—Receiver Autonomous Integrity Monitoring

**RA**—Resolution Advisory

**RCR**—Runway Condition Reading

**RMI**—Radio Magnetic Indicator

**RNAV**—Radar Navigation

**RNP**—Required Navigation Performance

**RON**—Remain Over Night

**RSC**—Runway Surface Condition

**RVR**—Runway Visual Range

**RVSM**—Reduced Vertical Separation Minimums

**SCI**—Special (or Sensitive) Compartmented Information

**SDP**—Special Departure Procedures

**SF**—Standard Form

**SIGMET**—Significant Meteorological Information

**SITCO**—Shell International Trading Company

**SM**—Statute Mile

**SOFA**—Status of Forces

**SOP**—Standard Operating Procedure

**SO**—Sensor Operator

**SPINS**—Special Instructions

**SQ/CC**—Squadron Commander

**SQ/DO**—Squadron Operations Officer

**SSO**—System Security Officer

**Stan/Eval**—Standardization and Evaluation

**STAR**—Standard Terminal Arrival Routes

**TAWS**—Terrain Avoidance Warning System

**TCAS**—Traffic Alert and Collision Avoidance System

**TDY**—Temporary Duty

**TDZE**—Touch Down Zone Elevation

**TEMPO**—Temporary (Weather Condition)

**TERPS**—Terminal Instrument Procedures

**TN**—Technical Note

**TO or T.O.**—Technical Order

**TOFL**—Takeoff Field Length

**TOLD**—Take off and Landing Data

**TTP**—Tactics, Techniques, and Procedures

**UHF**—Ultra High Frequency

**USAF**—United States Air Force

**US**—United States

**USSID**—United States Signals Intelligence Directive

**VASI**—Visual Approach Slope Indicator

**VFR**—Visual Flight Rules

**VHF**—Very High Frequency

**Vmca**—One Engine Out Minimum Control Speed

**VMC**—Visual Meteorological Conditions

**VNAV**—Vertical Navigation

**Vol**—Volume

**VOR**—Very High Frequency Omni-directional Radio-range

**Vsse**—Single Engine Inoperative Speed

**Vx**—Two Engine Best Climb

**Vy**—Two Engine Best Rate of Climb

**WG/CC**—Wing Commander

**WX**—Weather

***Terms***

**Adopted Form**—A form used (required) in a publication other than the prescribing publication.

**Air Force Component Commander**—In a unified, sub-unified, or joint task force command, the Air Force commander charged with the overall conduct of Air Force air operations.

**Air Reserve Component (ARC)**—Refers to Air National Guard and Air Force Reserve Command forces, both Associate and Unit Equipped.

**Airfield Suitability and Restrictions report (ASRR)**—A quarterly publication published by HQ AMC/ A36AS, to establish airfield suitability and restrictions for AMC and AMC-gained C-5, C-9, KC-10, C-17, C-21, C-130, KC-135, and C-141 aircraft operations. GDSS/GDSS2 provides the most up to date information available. Others use as information only, or as directed by assigned MAJCOM. (Ed. Note: This term is not used in the document.)

**Air Route Traffic Control Center**—The principal facility exercising en route control of aircraft operating under instrument flight rules within its area of jurisdiction. Approximately 26 such centers cover the United States and its possessions. Each has a communication capability to adjacent centers.

**Air Traffic Control**—A service provided by an appropriate authority to promote the safe, orderly and expeditious use of the air transportation system and to maximize airspace utility.

**Allowable Cabin Load (ACL)**—The maximum payload which can be carried on an individual sortie.

**Base Station**—A functional AFMSS station with one or more work stations normally located in a tactics office or base operations facility. The base station is air transportable to forward operating environments. The most common configuration is a dual station unit.

**Basic RNAV (BRNAV)**—BRNAV is defined as RNAV that meets a track keeping accuracy equal to or better than +/- 5 NM for 95% of the flight time. This value includes signal source error, airborne receiver error, display system error, and flight technical error. This navigation performance assumes the necessary coverage provided by satellite or ground based navigation aids are available for the intended route to be flown.

**Bird Aircraft Strike Hazard (BASH)**—An Air Force program designed to reduce the risk of bird strikes. (Ed. Note: This term is not used in the document)

**Bird Watch Condition Low**—Normal bird activity [as a guide, fewer than 5 large birds (waterfowl, raptors, gulls, etc.) or fewer than 15 small birds (terns, swallows, etc)] on and above the airfield with a low probability of hazard. Keep in mind a single bird in a critical location may elevate the Bird Watch Condition (BWC) to moderate or severe."

**Bird Watch Condition Moderate**—Increased bird population (approximately 5 to 15 large birds or 15 to 30 small birds) in locations that represent an increased potential for strike. Keep in mind a single bird in a critical location may elevate the BWC to moderate or severe."

**Bird Watch Condition Severe**—High bird population (as a guide, more than 15 large birds or 30 small birds) in locations that represent an increased potential for strike. Keep in mind a single bird in a critical location may cause a severe BWC.

**Block Time**—Time determined by the scheduling agency responsible for mission accomplishment for the aircraft to arrive at (block in) or depart from (block out) the parking spot.

**Border Clearance**—Those clearances and inspections required to comply with federal, state, and local agricultural, customs, immigration, and immunizations requirements.

**Chart Update Manual**—Chart Update Manual (CHUM). Manual issued each March and September (with monthly supplements) to update maps/charts with new information. It may reflect temporary or permanent information pending the next chart/map release.

**Class I Navigation**—Class I navigation is defined as any enroute flight operation conducted in controlled or Class G airspace that is entirely within operational service volumes of ICAO standard ground-based NAVAIDs (VOR, VOR/DME, NDB).

**Class II Navigation**—Class II navigation is any enroute operation that is not categorized as Class I navigation and includes any operation or portion of an operation that takes place outside the operational service volumes of ICAO standard ground-based NAVAIDs.

**Command and Control ($C^2$)**—The exercise of authority and direction by a properly designated commander over assigned and attached forces in the accomplishment of the mission. Command and control functions are performed through an arrangement of personnel, equipment, communications, facilities, and procedures employed by a commander in planning, directing, coordinating, and controlling forces and operations in the accomplishment of the mission.

**Command and Control Center**—Each $C^2$ Agency provides supervision, guidance, and control within its assigned area of responsibility. For the purpose of this AFI, C2 Agencies include operations centers, command posts, air mobility elements, tanker airlift control elements (TALCE), air mobility control centers, and tanker task forces.

**CONFERENCE SKYHOOK**—Communication conference available to help aircrews solve inflight problems that require additional expertise.

**Contingency Mission**—Mission operated in direct support of an OPORD, OPLAN, disaster, or emergency.

**Desolate Terrain Missions**—Any mission in excess of one hour over desert, tropical, or jungle terrain (not to include flights conducted over the CONUS).

**Deviation**—A deviation occurs when takeoff time is not within -20/+14 minutes of scheduled takeoff time. Notify controlling agency before takeoff to adjust the scheduled takeoff time.

**Direct Instructor Supervision**—Supervision by an instructor of like specialty with immediate access to controls (for pilots, the instructor must occupy either the pilot or copilot seat).

**Digital Aeronautical Flight Information File (DAFIF)**—Digitized FLIP data containing airport, runway, navigation aid, and enroute data. Contains both low and high altitude structures.

**Digital Features Analysis Data (DFAD)**—Selected natural and man-made features collected from photographic and cartographic sources.

**Digital Terrain Elevation Data (DTED)**—A matrix of terrain elevation values that provides landform, slope, elevation, and/or terrain roughness information.

**Double Blocking**—When an aircraft is required to block-in at one parking spot, then move to normal parking for final block-in. The extra time required for double blocking will be taken into account during mission planning/scheduling. To compensate for double blocking on departure, the aircrew "legal for alert time" may be adjusted to provide additional time from aircrew "show time" to departure. When double blocking is required on arrival, the aircrew entry into crew rest will be delayed until postflight duties are complete.

**Due Regard**—Operational situations that do not lend themselves to ICAO flight procedures, such as military contingencies, classified missions, politically sensitive missions, or training activities. Flight under "Due Regard" obligates the military pilot in command to be his or her own air traffic control (ATC) agency and to separate his or her aircraft from all other air traffic. (See FLIP General Planning, section 7.)

**Equal Time Point**—Point along a route at which an aircraft may either proceed to destination or first suitable airport or return to departure base or last suitable airport in the same amount of time based on specific operating conditions.

**Estimated Time In Commission (ETIC)**—Estimated time required to complete required maintenance.

**Execution**—Command-level approval for initiation of a mission or portion thereof after due consideration of all pertinent factors. Execution authority is restricted to designated command authority.

**Familiar Field**—An airport in the local flying area at which unit assigned aircraft routinely perform transition training. Each operations group commander will designate familiar fields within their local flying area.

**Geographic and Geodetic Coordinates**—These numbers indicate locations on the surface of the earth. Technically, these two types of coordinates are the same. However, for mission planners, Geographic has come to mean map-derived coordinates while Geodetic refers to mensurated or photo/survey-derived coordinates. Geodetic and geographic data must not be mixed during calculations.

**Global Positioning System (GPS)**—This is a US space-based positioning, velocity, and time system composed of space, control, and user elements. The space element is nominally composed of 24 satellites in six orbital planes. The control element consists of five monitor stations, three ground antennas and a master control station. The user element consists of antennas and receiver processors that provide positioning, velocity, and precise timing to the user.

**Ground Time**—Interval between engine shut down (or arrival in the blocks if engine shutdown is not scheduled) and next takeoff time.

**Heavy Icing**—A descriptor used operationally by flight crews when they report encountered icing intensity to air traffic control. The rate of ice buildup requires maximum use of the ice-protection systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is more than 3 inches (7.5 cm) per hour on the outer wing. A pilot encountering such conditions should consider immediate exit from the conditions.

**High Frequency Global Communications System (HFGCS)**—14 worldwide high power high frequency stations. Primary mission is to provide command and control voice and data support to aircraft. Aircraft can establish connect with use of callsign "Mainsail". JCS NOTAM ICAO is KGCS.

**Home Station Departure**—For the purposes of **Chapter 4** of this instruction, home station departure refers to a flight duty period which begins at the unit’s home base and is planned to terminate at another location.

**Instructor Supervision**—Supervision by an instructor of like specialty. For critical phases of flight, the instructor must occupy one of the seats or stations, with immediate access to the controls.

**Joker Fuel**—A prebriefed fuel state signaling a requirement to terminate one phase of flight to proceed to the next phase and accomplish all planned activity. There may be multiple joker fuels per sortie.

**Light Icing**—A descriptor used operationally by flight crews when they report encountered icing intensity to traffic control. The rate of ice buildup requires occasional cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is 1/4 inch to one inch (0.6 to 2.5 cm) per hour on the outer wing. The pilot should consider exiting the condition.

**Local Training Mission**—a mission scheduled to originate and terminate at home station (or an off-station training mission), generated for training or evaluation, and executed at the local level.

**Maintenance Status**—

**A-1**—No maintenance required.

**A-2 (Plus Noun)**—Minor maintenance required, but not serious enough to cause delay. Add nouns that identify the affected units or systems, i.e. hydraulic, UHF radio, radar, engine, fuel control, generator, boom or drogue, etc. Attempt to describe the nature of the system malfunction to the extent that appropriate maintenance personnel will be available to meet the aircraft. When possible, identify system as mission essential (ME) or mission contributing (MC).

**A-3 (Plus Noun)**—Major maintenance. Delay is anticipated. Affected units or systems are to be identified as in A-2 status above.

**A-4**—Aircraft or system has suspected or known biological, chemical, or radiological contamination.

**Mission**—1. The task, together with the purpose, that clearly indicates the action to be taken. 2. In common usage, especially when applied to lower military units, a duty assigned to an individual or unit; a task. 3. The dispatching of one or more aircraft to accomplish one particular task.

**Mission Advisory**—Message dispatched by command and control agencies, liaison officers, or pilots in command advising all interested agencies of any changes in status affecting the mission.

**Moderate Icing**— A descriptor used operationally by flight crews to report encountered icing intensity to traffic control. The rate of ice buildup requires frequent cycling of manual deicing systems to minimize ice accretions on the airframe. A representative accretion rate for reference purposes is 1 to 3 inches (2.5 to 7.5 cm) per hour on the outer wing. The pilot should consider exiting the condition as soon as possible.

**Modified Contour**—Flight in reference to base altitude above the terrain with momentary deviations above and below the base altitude for terrain depressions and obstructions to permit a smooth flight profile.

**Off Station Training Flight**—A training flight that originates or terminates at other than home station that is specifically generated to provide the aircrew experience in operating away from home station.

**Operational Control (OPCON)**—Transferable command authority that may be exercised by commanders at any echelon at or below the level of combatant command. Operational control is inherent in combatant command (command authority). Operational control may be delegated and is the authority to perform those functions of command over subordinate forces involving organizing and employing commands and forces, assigning tasks, designating objectives, and giving authoritative direction necessary to accomplish the mission. Operational control includes authoritative direction over all aspects of military operations and joint training necessary to accomplish missions assigned to the command. Operational control should be exercised through the commanders of subordinate organizations. Normally this authority is exercised through subordinate joint force commanders and Service and/or functional component commanders. Operational control normally provides full authority to organize commands and forces and to employ those forces as the commander in operational control considers necessary to accomplish assigned missions. Operational control does not, in and of itself, include authoritative direction for logistics or matters of administration, discipline, internal organization, or unit training.

**Operational Missions**—Missions executed at or above TACC level. Operational missions priority 1, 2, and 3 missions tasked by the TACC.

**Operational Risk Management (ORM)**—ORM is a logic-based, common sense approach to making calculated decisions on human, materiel, and environmental factors before, during, and after Air Force operations. It enables commanders, functional managers and supervisors to maximize operational capabilities while minimizing risks by applying a simple, systematic process appropriate for all personnel and Air Force functions.

**Originating Station**—Base from which an aircraft starts on an assigned mission. May or may not be the home station of the aircraft.

**Over water Flight**—Any flight that exceeds power off gliding distance from land.

**Permit to Proceed**—Aircraft not cleared at the first US port of entry may move to another US airport on a permit to proceed issued by customs officials at the first port of entry. This permit lists the requirements to be met at the next point of landing, i.e. number of crew not yet cleared. Pilots in command are responsible to deliver the permit to proceed to the customs inspector at the base where final clearance is performed. (Heavy monetary fines can be imposed on the pilot in command for not complying with permit to proceed procedures.)

**Point of No Return**—A point along an aircraft track beyond which its endurance will not permit return to its own or some other associated base on its own fuel supply.

**Point of Safe Return**—Most distant point along the planned route from which an aircraft may safely return to its point of departure or alternate airport with required fuel reserve.

**Positioning and De-positioning Missions**—Positioning missions are performed to relocate aircraft for the purpose of conducting a mission. De-positioning missions are made to return aircraft from bases at which missions have terminated.

**Prescribed Form**—A form designed to support the implementation of requirements in a directive Air Force publication. Use and purpose of a prescribed form must be contained in the publication it supports (also known as the prescribing publication).

**Pseudorange**—The distance from the user to a satellite plus an unknown user clock offset distance. With four satellite signals it is possible to compute position and offset distance. If the user clock offset is known, three satellite signals would suffice to compute a position.

**Quick Stop**—Set of procedures designed to expedite the movement of selected missions by reducing ground times at en route or turnaround stations.

**Receiver Autonomous Integrity Monitoring (RAIM)**—A technique whereby a GPS receiver/processor monitors the GPS. This integrity determination is achieved by a consistency check among redundant measurements.

**Severe Icing**—A descriptor used operationally by flight crews reporting encountered icing intensity to traffic control. The rate of ice buildup results in the inability of the ice protection systems to remove the buildup of ice satisfactorily. Also, ice builds up in locations not normally prone to icing, such as areas aft of protected surfaces and any other areas identified by the manufacturer. Immediate exit from the condition is necessary.

**Significant Meteorological Information (SIGMET)**—Area weather advisory issued by an ICAO meteorological office relayed to and broadcast by the applicable ATC agency. SIGMET

advisories are issued for tornadoes, lines of thunderstorms, embedded thunderstorms, large hail, severe and extreme turbulence, severe icing, and widespread dust or sand storms. SIGMETs frequently cover a large geographical area and vertical thickness. They are prepared for general aviation and may not consider aircraft type or capability.

**Special Tactics Team (STT)**—Team of Air Force personnel organized, trained, and equipped to establish and operate navigational or terminal guidance aids, communications, and aircraft control facilities in support of combat aerial delivery operations.

**Tactical Event**—Threat avoidance approaches/departures.

**Tanker Airlift Control Element (TALCE)**—Team of qualified Air Force personnel established to control, coordinate, and function as an Air Force tanker and airlift C2 facility at a base where normal AMC C2 facilities are not established or require augmentation. TALCEs support and control contingency operations on both a planned and no-notice basis.

**Tanker Task Force (TTF)**—Force of tanker aircraft assembled and tasked to perform a specific function.

**Topographical Line Map (TLM)**—A map scaled at 1 inch = 50,000 feet.

**Trace Icing**—Ice becomes noticeable. The rate of accumulation is slightly greater than the rate of sublimation. A representative accretion rate for reference purposes is less than 1/4 inch (6 mm) per hour on the outer wing. The pilot should consider exiting the icing conditions before they become worse.

**Training Mission**—Mission executed at the unit level for the sole purpose of aircrew training for upgrade or proficiency. Does not include operational missions as defined in this AFI.

**Transportation Working Capital Fund (TWCF)**—Formerly known as Defense Business Operations Fund-Transportation (DBOF-T). Part of the Air Force Working Capital Fund (AFWCF). Normally used to cover costs that can be recovered from an air mobility customer. Examples include TDY costs, site surveys of TALCE or airlift unit deployment bed down locations, airlift unit level mission planning expenses, and support or contract costs for deployed TWCF units/personnel.

**Unilateral**—Operations confined to a single service.

**Unit Move**—Unit relocation in support of a contingency or exercise deployment/redeployment. These moves are made to desired areas of operation or to designated locations, and are made IAW a troop movement schedule.

**World Vector Shoreline (WVS)**—A chart that displays shorelines, political boundaries, and country names only.

**Zero Fuel Weight**—Weight, expressed in pounds, of a loaded aircraft not including wing and body tank fuel. All weight in excess of the maximum zero fuel weight will consist of usable fuel.

## Attachment 2

## FENCE CHECKS

**A2.1. FENCE Checks.**

A2.1.1. Inbound

A2.1.1.1. Firepower

A2.1.1.1.1. TGP/SAR Setup – Complete

A2.1.1.1.2. Weapons Control Panel - Set

A2.1.1.1.3. Laser – Pulse PRF Set

A2.1.1.1.4. Laser – Select/Armed

A2.1.1.2. Navigation

A2.1.1.2.1. Routing – Reviewed

A2.1.1.2.2. Emergency Mission – Update

A2.1.1.2.3. Emergency Landing Sites – Review

A2.1.1.3. Communication

A2.1.1.3.1. Intercom – Set

A2.1.1.3.2. Radio – Set

A2.1.1.3.3. Chat – Set

A2.1.1.4. Emitters

A2.1.1.4.1. IFF – Set

A2.1.1.4.2. Transmitters – Set

A2.1.1.4.3. Lights off Range – Set

A2.1.1.4.4. Lights – Set

A2.1.1.4.5. ROVER – Set

A2.1.1.4.6. Other systems – Set

A2.1.2. Outbound

A2.1.2.1. Firepower

A2.1.2.1.1. Weapons Control Panel – Safe

A2.1.2.1.2. Laser – Safe

A2.1.2.2. Navigation

A2.1.2.2.1. Routing – Reviewed

A2.1.2.2.2. Emergency Mission – Update

A2.1.2.2.3. Emergency Landing Sites – Review

A2.1.2.3. Communication

A2.1.2.3.1. Intercom – Checked Set

A2.1.2.3.2. Radio – Checked Set

A2.1.2.3.3. Chat – Checked Set

A2.1.2.4. Emitters

A2.1.2.4.1. IFF – Checked Set

A2.1.2.4.2. ROVER – Checked Set

A2.1.2.4.3. Transmitters – Checked Set

A2.1.2.4.4. Lights – Checked Set

A2.1.2.4.5. Lights Off Range – Checked Set

A2.1.2.4.6. Other Systems – Checked Set

A2.1.2.5. Fuel

A2.1.2.5.1. Range/loiter time on objective

A2.1.2.5.2. Excess fuel available for alternate taskings

A2.1.2.5.3. Joker/Bingo

## Attachment 3

## PERSONNEL RECOVERY (PR) ON-SCENE COMMANDER (OSC) CHECKLIST

**A3.1.** This is a guide for MC-12W PR employment. It is not all-inclusive and not all items apply in every situation. MC-12W capabilities are not widely known; therefore, be flexible. Time is critical. Successful recovery is more likely the quicker recovery forces get to the survivor. The MC-12W Ops Cell should establish communication with the appropriate Rescue Coordination Center (RCC) and the SAR Mission Coordinator. The most critical PR phase is positive survivor location and communicating that to the recovery Launch Authority.

A3.1.1. Aviate

A3.1.1.1. Establish safe course or loiter pattern (Heading, Airspeed, MSA/ESA)

A3.1.1.2. Establish Bingo

A3.1.1.3. Avoid threats (hostile intent or environmental)

A3.1.1.3.1. Avoid parachute(s)

A3.1.1.4. Video feed to C2 element

A3.1.1.5. Sensor status

A3.1.2. Stack

A3.1.2.1. Assess assets available

A3.1.2.2. Direct all aircraft to an altitude above the last known parachute altitude

A3.1.2.3. Deconflict airborne assets by altitude

A3.1.2.3.1. Non-essential airborne assets RTB

A3.1.3. Squawk

A3.1.3.1. If on-scene when a survivor situation develops, set IFF to emergency 7700

A3.1.4. Communication

A3.1.4.1. Monitor Guard for initial contact with survivor

A3.1.4.1.1. After contact with survivor, push 282.8 if able

A3.1.4.1.2. If not authenticated, authenticate (combat)

A3.1.4.1.2.1. Check SPINS/ISOPREP

A3.1.4.1.3. Reassurance/Turn locator beacon on/off, etc.

A3.1.4.1.4. Establish TLC (Threats, Location, Condition)

A3.1.4.1.4.1. Threats (keep survivor answers to “yes/no” as much as possible)

A3.1.4.1.4.1.1. Enemy activity #/type/location (combat)

A3.1.4.1.4.1.2. Weather considerations

A3.1.4.1.4.1.3. Terrain considerations

A3.1.4.1.4.2. Location

A3.1.4.1.4.2.1. What did survivor see while in chute/during mishap?

A3.1.4.1.4.2.2. What can survivor see now?

A3.1.4.1.4.2.2.1. Recovery area available/suitable/accessible for helicopter or ground vehicle recovery?

A3.1.4.1.4.2.2.2. Open field(s), Major LOCs, Large Obstructions?

A3.1.4.1.4.2.3. SARDOT/GPS/radial-DME/Overflight

A3.1.4.1.4.2.3.1. Don't compromise location (combat)

A3.1.4.1.4.2.3.1.1. Altitude/Standoff?

A3.1.4.1.4.2.4. Friendly activity #/type/location

A3.1.4.1.4.3. Condition

A3.1.4.1.4.3.1. Able to walk? Yes or No

A3.1.4.1.4.3.2. Known injuries

A3.1.4.1.4.3.3. SABC fundamentals, help is on the way

A3.1.4.1.5. Signaling devices

A3.1.4.1.5.1. What devices available?

A3.1.4.1.5.1.1. Search kit/vest/surroundings

A3.1.4.1.5.1.2. Battery status of radio

A3.1.4.1.5.1.3. Mirror available? (keep covered until ready to use)

A3.1.4.2. Have Ops Cell call Command and Control agencies (Air Operations Center, RCC, etc.)

A3.1.4.3. Establish radio contact with controlling agencies

A3.1.4.3.1. Combat: ASOC via secure com

A3.1.4.3.2. Non-combat: RAPCON/Center

A3.1.4.3.3. Pass information with date/time stamp

A3.1.4.4. Brief assisting aircraft as necessary (pass information with date/time stamp)

A3.1.5. Direct

A3.1.5.1. Establish escort and/or recovery vehicles

A3.1.5.1.1. Pass TLC information to escort and/or recovery vehicles

A3.1.5.1.1.1. Include date/time stamp

A3.1.5.1.2. Scan and brief a safe infil/exfil route for recovery vehicles

A3.1.5.1.2.1. Threats: Enemy (combat), terrain, LOCs, Power Lines, Towers, etc

A3.1.5.2. Have recovery vehicles identify desired signaling device(s)

A3.1.5.2.1. Establish plan for survivor's activation of signaling device(s)

A3.1.5.3. Confirmation from recovery vehicles that they understand survivor's location

A3.1.5.3.1. Lead/direct recovery vehicles as necessary

A3.1.5.4. Survivor prep

A3.1.5.4.1. Brief survivor radio check-in plan

A3.1.5.4.2. Any delivery of ordnance near survivor? (combat)

A3.1.5.4.3. Have survivor prep their signaling device(s)

A3.1.5.4.4. Brief plan for activation of signaling device(s)

A3.1.5.4.5. Brief pickup: Helmet On, Turn away from recovery vehicle, Allow recovery forces to approach them, Don't resist, Prepare for ground team authentication (combat), Hoist/Litter procedures

A3.1.6. Pickup and Exfil

A3.1.6.1. Scan surrounding area, identify potential threats

A3.1.7. Handoff

A3.1.7.1. Brief Airborne Mission Commander, new OSC or SANDY if being relieved

A3.1.7.2. Maintain video feed to AOC if able

## Attachment 4

## AIRCRAFT COMMANDER BRIEFING

**A4.1.** Time Hack, Remove Rings/FOD, Sanitize (if required)

**A4.2.** Mission Introduction

A4.2.1. FCIF/Read File/Special Interest Items

A4.2.2. Mission Name/Number

A4.2.3. Classification

A4.2.4. Overview of Area(s) of Operations

A4.2.5. Crew Quals/Certs/Currency Affecting Planned or Potential Mission events

A4.2.6. FDP Limitations/Constraints

**A4.3.** Situation

A4.3.1. Intelligence

A4.3.1.1. EOB, GOB, AOB

A4.3.1.2. Friendly Forces & Planned Operations

A4.3.1.3. Isolated Personnel Procedures/EPA

A4.3.1.4. Code Words/Procedures

A4.3.1.5. SPINS/ROE

A4.3.2. Weather

A4.3.2.1. Departure/Enroute/Objective/Destination

A4.3.2.2. Solar/Lunar Data

A4.3.2.3. Limitations

A4.3.3. NOTAMS

**A4.4.** Mission Specifics

A4.4.1. Mission Itinerary, Profile, and Objectives

A4.4.2. Primary and Secondary Missions

A4.4.3. Supported forces

A4.4.4. Tasking Authority

A4.4.5. Go/No-Go Criteria

A4.4.5.1. Mission Equipment Requirements

A4.4.5.2. Options for Degraded Operations

A4.4.6. Communications plan/checks

**A4.5.** Pre-Departure

A4.5.1. Tail Number/Call Sign

A4.5.2. Aircraft Configuration and Load

A4.5.2.1. Crewmembers on Board

A4.5.2.2. Passengers

A4.5.2.3. Cargo

A4.5.2.4. Special Mission Equipment

A4.5.2.5. Fuel on Board

A4.5.2.5.1. Fuel Required / Excess Available

A4.5.2.5.2. Joker/Bingo

A4.5.2.6. Gross Weight for Taxi/Takeoff

A4.5.2.6.1. Capacity for additional passengers/cargo

A4.5.2.7. Personal Equipment

A4.5.2.8. Taxi Plan

A4.5.2.9. Abort Criteria

**A4.6.** Departure

A4.6.1. Weight & Balance / Performance Data

A4.6.1.1. Obstacle Clearance / ATC Climb Gradient Requirements

A4.6.1.2. Single-Engine Climb Capability

A4.6.1.3. Communications

A4.6.1.4. Planned Takeoff and Departure Procedures

A4.6.1.5. Contingencies / Emergency Return

**A4.7.** Enroute (repeat as appropriate for enroute phases)

A4.7.1. Route Description

A4.7.2. Altitude & Air / Groundspeed

A4.7.3. Obstructions & Hazards/Threats/Deconfliction Plan

A4.7.4. ESA

A4.7.5. Communications / Controlling Agencies

A4.7.6. Threats/Defensive Maneuvers

A4.7.7. Divert and Emergency Airfields

**A4.8.** Objective (repeat for each objective/terminal phase)

A4.8.1. Ingress Objective

A4.8.2. Altitude (MSL and AGL) & Air/Groundspeed

A4.8.3. TOT/Deconfliction Plan

A4.8.4. Communications / Controlling Agencies

A4.8.5. Objective Description

A4.8.6. Coordinates/DATUM Confirmed

A4.8.7. Features/Markings

A4.8.8. Friendly & Enemy Forces

A4.8.9. Crew Duties

A4.8.10. Threats/Defensive Maneuvers

A4.8.11. MSA/ESA

A4.8.12. Joker/Bingo (if different than overall mission)

A4.8.13. ROE

A4.8.14. Termination Criteria

A4.8.15. Divert and Emergency Airfields

**A4.9.** Airland Operations

A4.9.1. Airfield/LZ Survey/Obstacles/Hazards

A4.9.1.1. Prior Permission Required (PPR)/coord for fuel, ground support, etc.

A4.9.2. Aircraft Performance

A4.9.3. Threats

A4.9.4. Arrival Procedures

A4.9.4.1. Instrument Approach, Tactical Recovery, etc.

A4.9.4.2. Overt/NVG Landing

A4.9.5. Touchdown/Go-Around Point/Criteria

A4.9.6. Go-Around Plan

A4.9.7. Ground Plan (Taxi, Parking, etc.)

A4.9.8. Refueling Operations

A4.9.9. Aircraft Marshalling

A4.9.10. Crew Duties

A4.9.11. Communications/Controlling Agencies

A4.9.12. Aircraft and Grounding Equipment

A4.9.13. Post Refuel Operations

A4.9.14. Ground Security Requirements/Procedures

A4.9.15. Multiple Approaches (if applicable)

A4.9.15.1. Touch/Stop and Go Procedures

A4.9.15.2. Aircraft Performance Data

A4.9.15.3. Touchdown/Go-Around Point

**A4.10.** General Crew Duties/Responsibilities

A4.10.1. Emergency Procedures

A4.10.1.1. Simulated vs. Actual

A4.10.1.2. Takeoff, Enroute, and Objective

A4.10.1.3. Landing

A4.10.1.4. Ground Egress

A4.10.1.5. Classified Materiel Security/Destruction

A4.10.2. NVG Considerations (On/Off, Failure)

**A4.11.** Buffer Zone Procedures

**A4.12.** Operational Risk Management

**Attachment 5**

**MC-12W CRITICAL ACTION PROCEDURES (CAPS)**

MC-12W CRITICAL ACTION PROCEDURES (CAPs) – Pilots shall be able to immediately accomplish these procedures in the published sequence without reference to the checklist. CAPs may be abbreviated when written, but procedural intent must be clear.

**Engine Fire on Ground**
CONDITION LEVER - CUTOFF
FIREWALL VALVE - CLOSE
STARTER - STARTER ONLY
EXTINGUISHER (IF FIRE WARNING PERSISTS) – ACTUATE

**Emergency Engine Shutdown on Ground**
CONDITION LEVERS - CUTOFF
PROPS - FEATHER
FIREWALL VALVES - CLOSE
MASTER SWITCH - OFF
BATT BUS - EMER OFF
ESIS – OFF

**Takeoff Abort**
POWER - GROUND FINE
BRAKES - AS REQUIRED

**Engine Failure Takeoff Continued**
Vr - ROTATE
POWER - MAX ALLOWABLE
GEAR - UP
AIRSPEED - V2 TO ACCEL HEIGHT (400' AGL MIN)
PROP (INOP ENG) - VERIFY FEATHERED

**Engine Fire/Failure in Flight**
CONDITION LEVER - CUTOFF
PROP - FEATHER
FIREWALL VALVE - CLOSE
EXTINGUISHER (IF FIRE WARNING PERSISTS) – ACTUATE

**Environmental Smoke/Fumes**
OXYGEN MASK – DON
MASK SELECTOR SWITCH – EMER
MIC – OXY